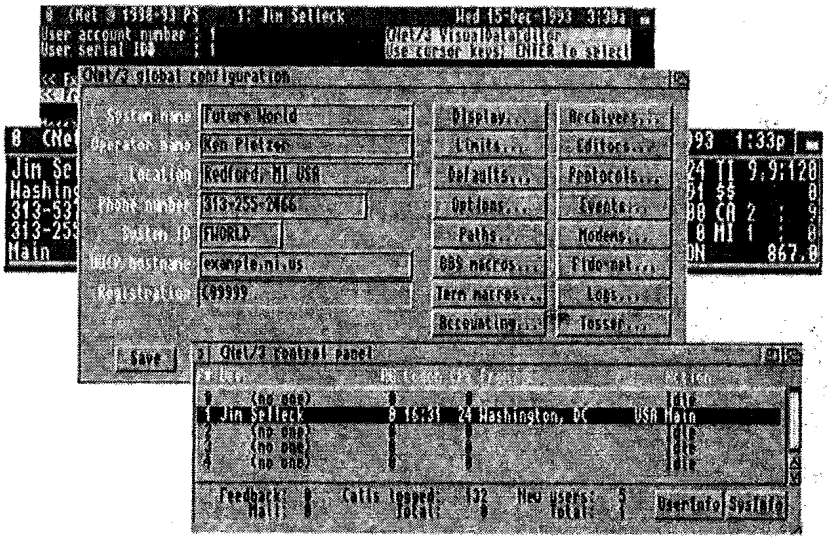
CNet PRO

Bulletin Board System

for Commodore *AMIGA®* computers



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This manual was written by Ken Pletzer, then edited and published by Jim Selleck. If the text contains any errors or ommisions, it is the fault of twelve years of Ronald Reagan and Republican politics in the US government. Yes, its a lame excuse, however the American public has bought it before.

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System Overview and Glossary

Welcome to the exciting world of telecommunications on your Commodore Amiga computer! CNet PRO version 3 for Commodore *AMIGA®* is an extremely powerful program, designed to make optimum use of the Amiga's built-in features. This preface has been added to the CNet manual to help you understand some of the technical terms we will use later. If you are new to computing on the Amiga, or if this is your first time running a Bulletin Board System (BBS), you are invited to peruse this list of terms before you try to tackle the task of installing and running CNet.

If you are already an Amiga "power user" with a thorough understanding of the AmigaDOS command shell, or if you are familiar with CNet from previous experience, you may safely skip this preface and move on to Chapter 1.

Glossary of commonly used terms

The following terms are referenced in the Index at the end of the book for your convenience if you need to look them up again later. Some of the items in all capital letters are AmigaDOS commands which can be used from the Shell or in script files. In general, the computer does not care whether you type them using capital or small letters.

Access

The dictionary defines access as a way to get into or reach a place. In computing, we often say, "I'm accessing my files." to indicate when we are using those files in any way. The CNet BBS allows you to define access groups" which precisely limit and define the places and activities users can reach.

AmigaDOS

DOS means Disk Operating System. AmigaDOS is different from the IBM DOS, which alienates some people who are used to the other system. AmigaDOS and its commands form the interface between the Amiga computer and its disk devices. You will have to learn to use some of those commands in order to install CNet.

ANSI

American National Standards Institute (ANSI) creates standards for computer languages and procedures. CNet AMIGA supports a large number of ANSI telecommunication procedures for sending and receiving text color changes, tabbing, cursor movement, etc. Callers to your system who are using ANSI terminal programs will be able to use and view the BBS much as you see it from your local screen.

Archive

An archive is a single file which contains several other files, usually compressed into a smaller number of bytes, if possible. Several archiving utility programs have been included with CNet and will be installed in your C: directory automatically. Programs which are copied to C: become usable as Shell commands.

AREXX

AREXX is a flexible and easy to use "script" language which is highly recommended for use with CNet. It comes with AmigaDOS 2.x, or is widely available for separate purchase.

Argument

An argument is a piece of information you enter after a command to tell the system exactly how you wanted that command executed.

ASCII

American Standard Code for Information Interchange (ASCII) is a numbered list of the letters, numbers, and symbols we use to communicate. It is the generally accepted standard by which data is transferred from one computer to another.

ASSIGN

This AmigaDOS command allows you to give alternate, shorter names to directories, in effect letting you address them AS devices. This is a VERY important command to master. Devices (such as DF0:, the floppy drive) are always addressed with a colon (:) after their names. Thus the command "DIR DF0:" will cause the system to look for a disk in the internal floppy drive and tell you what is on it. By issuing the command:

```
ASSIGN MYFILES:  Work:JimStuff/misc
```

you create a pseudo-device called "myfiles:". Then if you command "DIR MYFILES:", the system will give you the contents (if any) of the subdirectory on your hard drive at the end of the path you specified. (It has to exist!)

Baud Rate

The speed of data transfer in BPS (bits per second).

C Language

CNet AMIGA is written entirely in C language and much of the Amiga's own operating system is also written in C. If you learn C, you can create your own add-on modules to enhance and modify CNet's operation.

CD

This AmigaDOS command changes the Current Directory

(or storage device) being used by the command Shell, and by the programs you launch from it.

CLI

Command Line Interface: the same as the Shell. "CLI" is the original name for the Shell used in earlier versions of the AMIGA and its DOS.

COPY

This AmigaDOS command copies files from one place to another. If files being copied are inside a subdirectory structure, the necessary subdirectory(s) are automatically created on the destination device.

Default

Many system commands and functions have an action they take "by default" if no argument is given. For example, if you enter the Shell "DIR" command by itself, a directory of the files on the current active directory (CD) will be displayed. To see the contents of the RAM: device instead, you would supply the argument: "DIR RAM:". Commands and utilities which REQUIRE arguments will generally either give you an error message ("missing device name") or a quick list of the required arguments. Utility programs in C language often will print out a lengthy "help" text message if you type their name ONLY without arguments. Most of the archiving programs (like ZIP) included with CNet will do this. You can send that help text to your printer by using a "redirection" argument, like this:
"ZIP › PRT:"

Device

A hardware "device" is anything the computer can send or receive data to or from, like a disk drive, modem, printer; even the screen and keyboard are devices. Amiga devices

are always addressed with a colon (:) after their name, as in DF0: or PRT:. The Amiga also uses SOFTWARE devices. This is an EXTREMELY powerful feature, too involved to be explained here. CNet comes with a special "device handler" which allows AmigaDOS functions to be used over the modem. See also the ASSIGN command for a description of how you can create device names for any disk partition or subdirectory.

DIP Switch

A group of tiny switches placed together in a row of (usually) from 4 to 12. Often DIP switches are found on the backs or inside printers and modems. Each switch controls an operating function as defined in the instruction manual for that device.

Directory

A listing of the names of all the files in a disk storage area.

Download

You are downloading when you transfer data INTO your computer from an outside source. This contrasts with uploading, where you send data OUT to another destination.

DTR

Data Terminal Ready (DTR) is the name given to one of the wires in the cable between your computer and the modem. Most new modems support "DTR Hangup", which simply means that the modem will instantly disconnect the phone call in progress if you turn the DTR signal off for a second and then turn it back on again. Many modems have a status light which reflects the current DTR (or TR) on or off condition. You must be using a fully wired modem cable in order to use this function. See your computer dealer if you are not sure.

ENDCLI

This AmigaDOS command exits the current Command Shell and closes the Shell screen window.

EXECUTE

This AmigaDOS command causes the system to open a script file containing other AmigaDOS commands and execute those commands in order. After the commands are completed, control will return to the process from which the EXECUTE command was issued.

Extract

When you encounter an archived file which contains one or more other files grouped and compressed together, the process of taking those files apart and reconstituting them in their original form is called extraction.

Feedback

A private message to a BBS system operator.

Fido

An international networking system (FidoNet). CNet PRO includes a FidoNet message packer and tosser system, and needs only the addition of a "front end mailer" (usually "TrapDoor") program to make full use of FidoNet.

File

A collection of information stored under a single title (filename), usually on a storage device such as a disk. Files can be simple data, such as a text message, or a file can be a program or executable script which makes the computer perform a task.

File Transfer Protocol

A special program designed to send or receive information between two computers. Most protocols automatically detect errors and re-send data until it is confirmed to be correct. This helps insure 100% accurate transfers over the modem, even if line noise causes problems. The computers at both ends of the file transfer MUST be using compatible file transfer protocol software.

Font

The style of type and character set you select to see on your local screen. Changing your font will NOT make any difference on the screen of a remote (modem) user.

Gadget

The little boxes, arrows, screen sizers, etc. that you can manipulate with your Amiga's mouse are called gadgets.

Gfiles

CNet AMIGA maintains an area for your users where you may make text and/or graphic files available for them to read. Gfiles is short for "General Text Files".

Handle

An assumed name used by a BBS user.

Hayes

A manufacturer of computer modems. The Hayes modem command set has become the standard in the telecommunications industry. Modems which conform to that standard are said to be "Hayes Compatible".

Icon

A small picture on your workbench screen which will usually activate a program or open a screen window when you click with your mouse pointer on it.

Iconify

Some programs (like CNet's "Control") can close down their screens to save memory while remaining active in the background. A special icon is created to allow you to bring the program screen back.

Interface

Two different programs which pass data between them are said to interface together. Also, a device to allow two or more pieces of hardware to communicate with each other is called an interface.

Kilobyte

1,024 bytes.

Libraries

The Amiga uses collections of special short programs (called functions) to perform special jobs (such as mathematical operations). These collections are called libraries and can be found in the LIBS: directory. CNet uses special library files for file transfer functions. The included libraries will be automatically installed when you set up the BBS. It is possible to install additional file transfer libraries. Many of CNet's most frequently needed routines are stored in the file "libs:CNet.library".

Line Noise

Static or other interference on the phone line which introduces spurious "garbage" characters into the data being sent over the modem.

Local

BBS operations which are performed or apply ONLY to the local console and keyboard are referred to as being local. This contrasts with online or remote operations. When you activate Local Mode with a user online, input and output from the modem are suspended so the user cannot see what you are doing.

Logical Name

A name which the system can use to locate a place it would need to send or receive data to or from. Logical names can be assigned to devices, subdirectories, or even files. Hard drive partitions are addressed using logical names.

Logical Unit

When a hard drive partition is assigned a logical name so the computer can address it as though it was a separate hard drive unit, that partition is sometimes referred to as a logical unit.

Logon

A user "logs on" to a BBS when they connect, give their password, and are allowed to enter the system.

Macro

A string of characters which can be entered by typing only one key or key combination. Also, AREXX language script files are often called macros.

MAKEDIR

This AmigaDOS command is used to create a new subdirectory on a disk drive. Subdirectories on the Amiga are also called "drawers", and can be nested inside each other.

Megabyte

1,048,576 bytes.

News

On CNet BBS the SysOp may post news bulletins for users to read when they enter the system. News files can be made mandatory (non-abortable), and/or recurring, so the user sees the same bulletin every time they call. Normal news files are displayed only once and can be aborted if the user is not interested.

Online

System operations which are conducted from a remote computer over the modem, are referred to as online operations. This contrasts with local operations which are conducted from the console keyboard and screen only. Also, when you connect your computer to an active phone line and make it ready to take BBS calls, you are said to be putting your BBS online.

Partition

A separate area on a hard drive. Most hard drives can be divided into several partitions for convenience in keeping files and data isolated. Partitions are generally addressed by the Amiga as though they were completely separate drive units. Each partition may have its own directory and subdirectories.

Pfiles

CNet allows you to set up a special area where users can make use of additional, external program modules called Pfiles. These can be games, utilities, or even extentions of

the BBS itself. Almost any CLI (Shell) based executable file written in C language, AREXX, or AmigaDOS script can be used as a Pfile, as long as its input and output can be diverted over the modem by CNet.

Pixel

A single dot on the screen. Usually the smallest screen area the computer can address.

Port

A place where the computer communicates with peripheral devices. The modem is generally connected to the serial port, which is set up as a 25 pin connector called an "RS-232" port If you wish to operate more than one phone line on your CNet BBS, you will need to add more serial ports to the Amiga. This can be accomplished by using a multi-serial port card such as Commodore's 2232 card.

Prompt

A place where the system stops and waits for input from the user. Most prompts are in the form of a short text message describing what kind of information is required.

Protocol

A formal set of communication procedures between two different systems. See also: File Transfer Protocol.

RAM

Random Access Memory. The kind of memory that your Amiga uses to run programs and store data. You may have to add more RAM to your system by purchasing either more chips to plug in, or a separate memory expansion card. Also, the "RAM:" device is a simulated disk drive which uses RAM only for data storage. It is very fast and

is often the best place to store data which is replaceable but needed often.

RESIDENT

If you have enough RAM memory on your Amiga, some programs (like CNet) can be made resident by using this AmigaDOS command. That means that they are stored in memory all the time so the system does not have to take time to go back to the disk drive every time they are needed.

RS-232

The standard by which the serial modem port is wired.

Run

This AmigaDOS command is used to start a program from the CLI (Shell). The main advantage of of using the RUN command over simply typing the name of the program, is that a new window is created, allowing you to go back to the Shell if necessary and type more commands.

Script File

A text file containing a list of AmigaDOS (or AREXX) commands to be executed in the order given. Script Files are started using the Execute command.

Serial Port

(See Port) The place on the back of the Amiga where you plug in the modem cable. The computer sends and receives data "serially" here, or one bit at a time. That contrasts with the parallel port where data is transferred several bits at once.

Shell

The Shell is a window into which you can type AmigaDOS commands, many of which are mentioned in this glossary. You will have to have a Shell window open at all times in order to run CNet BBS.

Startup-Sequence

This is the name of a text file you will find on the S: directory of your hard drive. It is an AmigaDOS script file which contains a list of steps the system must perform in order to start itself up. AmigaDOS 2.x users will generally NOT add modifications to this file but will change the S:User-Startup file instead.

Subboard

In CNet you will allowed to establish separate areas for both public messages and file transfers. Each of these areas is called a subboard, and each can be set up with its own set of restrictions and attributes.

SubOp

A system user who has been given access to special maintenance commands on one or more subboards is called a SubOp, or Subboard Operator.

SysOp

As main BBS System Operator, you are the SysOp. You will want to set up a special access group for yourself only, containing all of the special reserved maintenance capabilities. Also, you will need to log on to the BBS as the FIRST New User before you actually place the system online. That will define your account as the first one in the system user file.

Terminal

A program that allows your computer to communicate with another computer, usually over the telephone line via modem. Anyone wishing to call your BBS will have to be running a terminal program on their computer. CNet includes a simple terminal program for your convenience should you wish to call out to another computer without taking the BBS down.

Text Editor

A program which allows you to create new text files, or edit existing ones. In general a text editor differs from a word processor in that the text editor will save "raw" text without any special formatting characters added. While many word processors have "save text only" modes, it is SAFEST to use a simple text editor when you are creating or editing CNet files.

Upload

You are uploading when you send data OUT from your computer to an outside destination. This contrasts with downloading where you are transferring data IN to your computer.

UseNet

An international networking system originating on UNIX.

User

A member of your BBS who calls in via modem and participates.

User-Startup

A text file which can be used by AmigaDOS 2.x systems. As noted in the CNet installation instructions, AmigaDOS

1.3 users will make the indicated changes to their S:Startup-Sequence file. 2.x users will make the changes instead to S:User-Startup.

UUCP

Another name for UseNet, the UNIX network.

Validate

New users to the system are allowed limited access. As SysOp you will validate users by confirming their identity and assessing their desirability, then assigning them a higher access group accordingly.

Workbench

The Amiga's powerful icon based Graphical User Interface (GUI). This is the screen where all the disk icons appear and can be selected using the mouse. Workbench is actually a program itself, which is started in the Startup-Sequence file by the command "LoadWB". Since CNet is operated from the Shell, you may wish to eliminate Workbench entirely in order to save memory. That can safely be done by removing the "LoadWB" command from the Startup-Sequence.

System storage areas Used by CNet BBS

When you install CNet following the procedures in this manual, several special storage areas for the use of the Bulletin Board System will be automatically created on your hard drive. This is a summary of those areas.

CNET:	The main directory which usually contains all the other BBS files, including:
News:	Where system news bulletins are stored.
Gfiles:	General text files.
Pfiles:	Games and utilities in 'C', AREXX, or AmigaDOS
Mail:	Private mail between system users.
UDBasex:	File transfer/message base area. (x = 0-23)
Basex:	Message/file transfer base area. (x = 0-23)
SysData:	Data files about the system and your users.
SysText:	Storage for text files displayed on the BBS.

If you follow the normal setup instructions, these areas will be created on your hard drive. After you install CNet, pointers to these storage areas are set up automatically every time you turn on or reboot your Amiga. A series of AmigaDOS ASSIGN statements does the job. The intallation utility program adds the necessary assigns and many other important lines onto the end of your s:User-Startup file. You may use a text editor to carefully change these lines at any time.

ONWARD!

It is hoped that this opening chapter has helped clarify some terms and concepts you will encounter later. It is not meant to take the place of more detailed texts about AmigaDOS and the Amiga computer.

Mainly, this is simply the glossary that I wish had been provided for *me* when I first started out in computing and telecommunicating.

Good Luck, and I'll see you on the nets!

Jim Selleck
June 16, 1992 for Version 2
Revised and updated December 25, 1993 for Version 3

Logic is the beginning of wisdom, not its end.

-Spock (paraphrased from Star Trek VI)

Notes:

CHAPTER ONE - Welcome!

Welcome to CNet version 3, the most complete and comprehensive Bulletin Board System (BBS) software available for the Commodore Amiga line of personal computers. CNet is the product of several years of continuous, constant, and determined software engineering. CNet has been and always will be an ongoing project--many exciting features and enhancements still await future versions of CNet!

Don't be fooled, running a BBS is hard work. You have to spend long hours maintaining a computer system that may be in constant use by hundreds of people, maybe several at a time. You may have to listen to their complaints, cater to their needs, and even entice them to use your BBS instead of "the competition." And then there is the "small" matter of the phone bill!

All that aside, running a BBS can be one of the most rewarding activities you have ever undertaken. A BBS can be a very social place--innumerable friendships, and even marriages have resulted from people "meeting" on these electronic hang-outs. If you run your BBS as a hobby, it will provide you with hours of entertainment. Instead of calling as many other BBSs as you may have, your own users will bring conversation and computer programs right to your fingertips. If you run your BBS for profit, CNet will provide a courteous and professional interface to your business. Your BBS may even provide a valuable community service.

About your CNet documentation

It is our goal to make CNet quick and easy to initially install. Whether you are new to CNet, or if this is your tenth update, carefully follow the instructions in the installation chapter. Then, once you have CNet up and

running with a minimal configuration, this manual is intended to be used as a "reference tool" to expand your system and to learn about and to take advantage of the many advanced features that CNet has to offer.

The manual is organized by "topic," not necessarily strictly by command menu and prompt. This makes learning about specific topics easier than having to reference commands and data fields located throughout different chapters. The index at the end of the manual provides an easy way to locate exactly what you are interested in.

One thing we have learned over the years of writing these CNet instruction books is that different people learn technical stuff in different ways and at different speeds. We can only present the information here one way, so we have to decide which method will reach the most readers. Alas, however, we cannot reach every reader with every example. Please be patient with us and with yourself. Make sure that you have learned all you can about your Amiga computer first before you try to tackle installing CNet. It is beyond the scope of this manual to show you how to invoke and use the Amiga's "Shell" Command Line Interface to directly type commands. But it will be necessary for you to USE the Shell occasionally to install and administer your BBS.

If you simply cannot find the answer to a question here in the book, take heart! You may call our 24 hour customer service BBS, called Future World. See the paragraph titled "Getting Help" later in this chapter.

System requirements

CNet will operate on any model of Amiga personal computer running the AmigaDOS Operating System version 2.04 or newer. CNet requires at least two (2) Megabytes of RAM for a minimal configuration. More

memory is recommended for a multi-user BBS and to improve system efficiency. CNet requires installation onto a hard drive (of any capacity). CNet will work with all "Hayes-compatible" modems.

New features of version 3.0

If you have used earlier versions of CNet, you will find many improvements in version 3.0. These improvements include new commands and programs that make using the BBS easier and more efficient. Version 3.0 includes the following new or improved features:

- o Account locking to maintain user data integrity on busy multi-user systems
- o All new and more powerful event scheduler
- o Use up to 100 ports
- o Many improvements to Join and JoinLink, including automatic JoinLink dial-ups
- o TermLink allows "restricted" dial-out
- o Commands like EL, EA, EG and AT take RANGES of items to make changes to multiple items at once
- o Caller-ID has been more fully integrated
- o The visual editor has a fully-featured and expandable spell checker
- o A built-in ANSI-sequence editor
- o Support for access groups 0-31
- o Executables to import and export UUCP mail and UseNet newsgroups
- o Complete Fido-Net netmail support
- o A "cnet.library" to hold commonly called routines
- o The DOS interface has been replaced with Matt Dillon's FIFO routines
- o CD-ROM support has been more fully integrated
- o Users may batch upload short description files
- o XPR-TASK is GONE! Use of Machine Language allowed transparent coding of this file
- o The BBSList has an auto-purge feature
- o CNet has a FAST integrated FidoNet tosser/packer

Getting help

If you have a question about CNet, first consult this guide. For information not available in time to be printed in this guide, a "support" directory exists on the CNet distribution disks. This directory contains text files of documentation updates, tips, helpful hints, and answers to commonly asked support questions.

Perspective Software and Beverly James Products operate Future World, a 24 hour customer support BBS. This CNet BBS operates with six high speed modems, five of them v.32 and one an HST dual standard. Future World's primary dial-up number is currently 313-255-2466. Our current FidoNet address is 1:2410/215. Hundreds of other CNet sysops call this BBS, and it is an excellent source of help, encouragement, and support. Future World is the primary source for CNet updates and news--as a registered owner of CNet, you are entitled to download all version "3.X" updates for free! Hundreds of program files ("doors") and other enhancements are also constantly available and being updated on Future World.

If you wish to write to us, the address is:

Perspective Software
P. O. Box 87175
Canton, MI 48187

If you have suggestions for the further improvement of CNet, please do not hesitate to write or to share them with us online at Future World. CNet has been built upon the ideas and suggestions of its sysops and users.

The Registration Card

It is very important that you fill in your registration card and mail it back to us. This card will allow us to mail you

notifications of upcoming releases and CNet related activities. It also serves as a proof of purchase so that you may obtain support and full access to Future World BBS.

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CHAPTER 2 - Installation

If you are updating from another version of CNet, the first thing to do is to BACK UP your current system. If something goes wrong, you can temporarily return to your old configuration.

Manual or Automatic?

CNet PRO version 3 is the first incarnation of CNet to come with an automatic installation utility. Previous versions all had to be installed using Copy commands from the AmigaDOS Shell prompt. This was done because BBS operators were assumed to be computer "hackers" who would be more comfortable with the "command line" interface than with pointing and clicking on little graphic boxes. In fact, there are computer people out there to this day who refuse to touch a mouse unless as a last resort.

However, as CNet and Bulletin Board Systems in general have become more popular, we have had in increasing number of requests to move to the GUI (Graphical User Interface) to make the system accessible to casual Amiga users as well as those rugged pioneers who bravely navigate the command line frontier.

This movement into the point-and-click realm has resulted in CNet becoming more powerful than ever, and even the old hackers have to admit that system setup is now 1,000 times faster and easier.

Having said all that, we have decided to include a section on manual installation and updating just in case it is needed for Amiga systems having very unusual configurations where the automatic installation utility might to too generic to use.

For 999 out of 1,000 systems out there, all you have to do is insert CNet PRO BBS disk #1 and double-click on the Install_CNet icon! Follow the instructions as they come up. Don't expect to have a fully operational BBS up and online in just five minutes. This is an extremely powerful system, and it is not unusual for system operators to continue tweaking and modifying their CNet configurations for many months. In fact, thats part of the FUN!

Note for Updating CNet SysOps

Those updating from CNet 2.x can use the automatic installer too! Your BBSMENU and BBSTEXT files will NOT be touched so that you can transfer any changes and modifications you have made into the new 3.0 files. Please use the detailed instructions later in this chapter to determine which files from the Updating directory you will have to run in order to convert your 2.x BBS data files over to 3.0 format. AND MAKE CERTAIN YOU HAVE A COMPLETE SYSTEM BACKUP before converting, just in case something goes wrong!!

What to do next

If you carefully followed the instructions in this chapter, congratulations! Chances are that you now have an operational BBS (local mode only). The default configuration in place is minimal--use of only one hard drive partition and no modems.

Before expanding the BBS configuration, take some time to become familiar with CNet in local mode. Read the control panel and BBS GUI chapter. Then, work your way up to the CONFIG program. From the CONFIG program, you can change many defaults and options. Modem ports may be added and configured from the CONFIG program.

In no time at all, you will be ready for your first caller!

Manual Installation Procedure

All installation described in this chapter is done from the Shell prompt. If CNet is currently running, quit from it.

Modifying your startup-sequence file

The default AmigaDOS 2 startup-sequence file contains lines to "loadwb" and then "endcli." In a BBS environment, you will NOT want to do this. It is advisable to keep the original "background CLI" open during BBS operation. Using a text editor like MicroEMacs or CygnusEd, edit the file "s:startup-sequence." Add a semicolon (;) to the beginning of each of the "loadwb" and "endcli" lines to nullify them. Then, at the end of the file, add this line:

```
execute s:startup-cnet
```

Installation of system files

Insert the CNet distribution disk with the "workbench" directory. From the Shell, use the CD command to make the workbench directory the "current" directory. Use the following commands to install the system files:

```
copy C C:
copy L L:
copy S S:
copy LIBS LIBS:
copy fonts fonts: ALL
```

Choosing a location for CNET:

Create a directory on your hard drive for CNet by first using the CD command to make your hard drive the "current" directory (eg., "cd dh0:"). Then, use the command "makedir cnet."

If you have more than one hard drive, or more than one partition, you may install CNET: onto one of the smaller ones. Most sysops prefer to reserve the larger hard drives or partitions for strictly file transfers.

Modifying your startup-cnet file

Use a text editor like MicroEMacs or CygnusEd to edit the "S:startup-cnet" file. The first "assign" command has a path for the "cnet" directory. If necessary, change this path to reflect the path to the directory you just created (eg., "dh1:cnet" or "dh2:cnet" etc.).

If you have more than one hard drive or partition for the BBS, additional assignments may be added to this file later after you have read the "partitions" section of the subboards chapter.

Installation of CNet files

Insert a CNet distribution disk with a "cnet" directory on it. Use the CD command to make the floppy drive the "current" directory.

NOTE: Some of the directories MAY contain files which have been "archived" together (such as SYSTEXT:) to save space using the LhA archiver. You will have to UNPACK those files after they are copied!

Use the command "copy cnet dh0:cnet all" to transfer the CNet files to your hard drive. Change the "dh0:" in the above command to reflect the hard drive that your "cnet" directory was created on. Repeat this procedure for each CNet distribution disk that has a "cnet" directory on it (there will be at least two disks that do).

If this is your first CNet installation, you are ready to re-boot your machine and check your installation. If everything was installed correctly, you should see the control panel open, load port 0 (configured as a local mode only port), and then iconify.

Updating from version 2.X

You only need to read this section if you are currently running CNet version 2 on your system. NOTE if you are running CNet version 1, conversion programs from version 1 to 3 are not available at this time.

Before continuing, please double check that you have followed the above instructions and that all version 3 executables and configuration files are in their correct directories. As before, CNet should NOT be running at this time.

There are a varying number of steps involved in the conversion from version 2.X to version 3, depending upon what the 'X' in "2.X" is. Make a note of what your current version number is (as displayed when you first connect to the BBS), and then read and execute the following instructions with care.

If you are updating from 2.20d or earlier,

```
delete vote:#? all
makedir sysdata:vote
makedir sysdata:bbslist
rename sysdata:bbslist.index sysdata:bbslist/index
rename sysdata:list.#? sysdata:bbslist/#?
```

If you are updating from 2.37z or earler,

```
rename "systext:sys.new user" systext:sys.nuser

makedir pfiles:data
rename pfiles:_Items2 pfiles:data/_Items2
```

```
rename pfiles:_dirinfo pfiles:data/_dirinfo
rename pfiles:_sys.start pfiles:data/sys.start
rename pfiles:_sys.exit pfiles:data/sys.exit
```

repeat the last 5 commands for gfiles:, news:, and all subdirectories in these areas (like pfiles:maintenance now contains pfiles:maintenance/data, etc.).

If you are updating from 2.39z or earlier,

```
delete cnet:bbsed
delete cnet:bbsproto
delete cnet:bbsarc
delete cnet:bbsport#?
```

If you are updating from 2.40d or earlier,

```
delete cnet:bbslog
delete cnet:bbscolors
delete cnet:bbscharges#?
```

If you are updating from 2.40z or earlier,

```
delete sysdata:passwords
delete cnet:bbsevent#?
```

If you are updating from 2.58z or earlier,

```
delete sysdata:vote/#? all
delete cnet:bbscontrol3
```

The following files are obsolete, and should be deleted:

```
delete cnet:xx
delete cnet:yy
delete cnet:xpr-task
delete cnet:bbsconfig
delete cnet:bbscontrol
delete systext:sys.conf.noises
delete systext:sys.passwords
delete sysdata:bbs.alpha
delete L:cnetaux-handler
delete LIBS:xprzmodem*.library
```

Next, you must run a combination of data conversion programs, depending on this version you are updating from. These programs are located in the "updating" directory on the CNet distribution disks. NOTE that all programs here should be used from the Shell, and WITHOUT CNet running!

Updating from	Conversion programs necessary, in this order:
1.98 -- 2.14z	NEWBASE,NEWUSERS2,NEWUSERS4,UP225, UP250,UP300
2.15 -- 2.16z	NEWBASE,NEWUSERS3,NEWUSERS4,UP225, UP250,UP300
2.17 -- 2.18g	NEWBASE,NEWUSERS4,UP225,UP250,UP300
2.19 -- 2.19z	NEWUSERS4,UP225,UP250,UP300
2.20 -- 2.24z	UP225,UP250,UP300
2.25 -- 2.42e	UP250,UP300
2.42f-- 2.72	UP300
2.73 -- 2.99z	NOTHING!

(Note: CNet version 2.63 was the LAST legally released version! All versions between 2.63 and 2.99z were BETA TEST only, and were NOT for general use. If you are running one of those versions, it would have to have been obtained from some pirate source and MAY not be reliable, or could even contain some kind of virus or "back doors" installed by the pirate. We WILL not take any responsibility for problems caused by use of pirated beta test versions of CNet.)

If everything was successful, you should now be able to run CNet ("run control"), load your ports, write your control panel configuration, and then logon using the TAB key. Once you reach the Main prompt, you should run the version 3 POINTERS program and AMAINT program:

```
run pfiles:maintenance/pointers
run pfiles:bbs/amaint
```

You should use the EG command to view the many new user privilege flags. After making appropriate changes, you should use the pfiles:maintenance/transpose pfile to make changes into individual user accounts. If you require explanation of any flag, see the "access group and user account" chapter.

If you are updating from 2.37z or earlier, you should EL your subdirectories and direct exchange subboards to give each of them a "unique dirname." The Base and UDBase have built-in unique dirnames of "main." And for EVERYONE updating, be aware that entry and exit file paths for these areas changed twice as follows (makedir the appropriate directories and rename the sys.entry and sys.exit files):

version 2.37:	base0:sys.entry.main
version 2.38:	base0:main/sys.entry
version 3.00:	base0:main/data/sys.entry

Repeat the directory creation and file renaming (if necessary) for all subdirectories and direct exchange subboards, in both the Base0: and UDBase0: areas.

If you are already running version 3, and receive a version 3.X update, always be sure to check the "updating" subdirectory on your new CNet distribution disks. This directory will contain files describing what is new, and any special updating instructions.

Notes:

CHAPTER 3 - The Control Panel and BBS GUI (Graphical User Interface)

The control panel provides the sysop with the ability to conveniently monitor BBS activity from one workbench window. It also serves as a handy point-and-click method for launching the CNet's global configuration program "CONFIG", launching ports, and setting or changing port variables.

It is the control panel's job to remember the system's environment or "setup" once you have defined it. This consists of remembering which ports are launched, which port screens are open, what those screens look like, and how the pull-down menu options are set. Whenever you use the control panel pull-down menu option "Write setup", the control panel stores the setup information in the file "cnet:bbscontrol3."

Running CNet

NOTE: At the time of this writing, the first release version of CNet PRO 3 can ONLY be started using a typed command. In future, an icon may be provided which will allow you to open the CNet Control Panel by clicking with the mouse.

To run CNet, you must use the following command from the Shell or from your startup-sequence (the words in {braces} are OPTIONAL parameters):

RUN CNET:CONTROL {NOICON} {NOCONFIG} {VERBOSE}

NOICON: By default, the control panel "iconifies" into a tiny window containing a large letter "C" on the workbench window. Use the NOICON parameter to leave the control panel window open.

NOCONFIG: By default, the control panel reads the file cnet:bbscontrol3. To prevent this from happening, include the NOCONFIG parameter.

VERBOSE: By default, the control panel redirects all input and output to the Amiga's NIL: device. Include this

parameter if you want to see debugging information in the Shell window.

Once the control panel has loaded, it will "iconify" (unless you've used the NOICON parameter). This feature allows you to place the control panel icon anywhere on the workbench screen you desire, out of the way of other workbench applications. Also, the efficiency of the system is maximum when all port screens are closed and the control panel is iconified.

To open the control panel, double click on the large letter "C." To close the control panel (removing it and all ports from memory) click the icon window's close gadget.

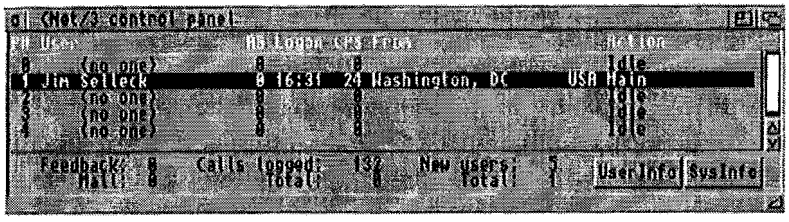
Problems Loading and Running Control Panel

If for any reason the control panel appears to fail to open properly, it is possible that the information held in the cnet:bbscontrol3 file has become corrupt. You may delete it and re-boot the system, or run CONTROL using the NOCONFIG parameter.

CONTROL may also fail to load if it is unable to find libs:cnet.library. Make certain that this file has been properly installed, and that when updating CNet it has been replaced with the latest and newest version.

Another reason for CONTROL to fail is that there was not enough RAM memory. If your Amiga is short on RAM, make sure that you are NOT loading the Workbench (the "LoadWB" command) in your s:Startup-Sequence.

Getting to Know the Control Panel



Once the control panel is open, you can make it any size you wish by using the window sizing gadget. The control panel has numbers running down the left side of the

window. These numbers correspond to port numbers. The control panel will display as many port numbers as possible based on the window's size. Using the proportional drag bar gadget and arrow gadgets on the right side of the window, you can view any portion of the control panel's 100 port numbers (0-99).

To re-iconify the control panel, click on the window's close gadget. There are also options on the control panel's first pull down menu to iconify and to immediately quit the control panel (all ports will be closed).

To "select" a port, use the mouse to click once anywhere to the right of the port number in the control panel window. To unselect all ports, use the mouse to click once anywhere below the last port number displayed in the control panel window. The control panel will show you that a port is selected by changing the color of the port's line to be reverse that of the others.

To launch a port, double-click anywhere to the right of the port number in the control panel. The message "Loading..." will appear. The message will then read "Setting up..." and finally, if successful, "Idle." If an error occurs, the message will flash "Failed" and then disappear. A port will fail to load if there is not enough memory or if it was unable to open a serial device (if one was ever configured for that port). If there was an error opening the serial port, you may wish to return to CONFIG to review your serial port configuration. For convenience, there is an option on the control panel's first pull down menu to run CONFIG.

Saving the Control Panel Configuration

Once you have configured the control panel and ports as you like them, you may select the pull down menu option "write setup" to write the cnet:bbscontrol3 file. When you next RUN CNET:CONTROL, the control panel will automatically configure the ports as they were when you last used the "write setup" option.

The control panel has a built in security feature which allows you to LOCK the control panel, preventing any changes to be made to the configuration. To activate this

function, select the pull down menu option "lock/write setup." To unlock the control panel, use the command CNET:UNLOCK from the Shell. It is possible to attach a password to the UNLOCK program--this will be explained in another section.

Control Panel Menu Options

The control panel's second pull down menu affects the currently selected port only. If there is no selected port, this menu will affect ALL ports. The first five options on this menu are "flags" that are either check-marked (active) or not. The remaining options are functions. The menu's options are as follows:

SYSOP IS IN: Activate to tell users that you are available when they use the Chat command. Otherwise they will be told that you are out and offered a chance to send you a feedback message.

NO NEW USERS: Activate to turn off the "NEW" option at logon. This restricts entry to the system to users who already have accounts.

UDBASE CLOSED: Whether or not to allow users in the Uploads area of the BBS.

PFILES CLOSED: Whether or not to allow users into the Program files area of the BBS.

BASE CLOSED: Whether or not to allow users into the Message area of the BBS.

CLEAR LINE: If there is a user online, immediately hang-up.

CLOSE PORT: Bring the port down, removing it from the control panel. If there is a user online, immediately hang-up.

SEND OLM: If there is a user on the port, enter a short message (On Line Message) to be displayed on the user's screen.

CANCEL CHAT: When a user chats, his chat message is displayed in the control panel window at regular intervals, replacing the normal control panel information. This function will stop the control panel from displaying the chat message.

Other Control Panel Gadgets

There are two other push button gadgets on the control panel.

The "UserInfo" button is functional only when a port is selected, and a user is online on that port. A window will open to display the user's vital statistics. Use the window's close gadget (upper left corner) to remove this window from the screen.

The "SysInfo" button is functional at all times. A window will open to display the system's vital statistics. Use this function to quickly determine drive space, when the next system event will occur, and to view several system activity monitor (SAM) variables. To reset the SAM "period" variables, use SysInfo's pull down menu option "reset period." SysInfo also displays the system activity graph (SAG), showing the relative system activity by time of day. The activity graph is a continuously averaging function, and is only reset using SysInfo's pull down menu option "reset graph." Using these reset options, you are able to monitor system activity over an arbitrary length of time.

There are also several SAM variables displayed directly on the control panel to allow you to determine at-a-glance if there are messages waiting for you. "Mail" refers to messages waiting in the sysop's mailbox (account 1). "Feedback" and "New Users" refer to messages left as feedback and by new users, respectively. "Calls logged" shows the number of calls (successful or not) that the system has saved in the call log. "Total" beneath "calls logged" tells the number of actual complete logins that the system has had to date. Note that this number does not include local-mode calls. "Total" beneath "new users" refers to the number of users currently active (not deleted) members of the BBS.

Opening a Port's Screen

Once a port has been successfully launched, you may open its screen. To open a port's screen, double click anywhere to right of its port number in the control panel. Your port screen(s) do NOT have to be open for users to log on to the BBS, and should usually be left closed to save memory unless you are monitoring BBS activity or logging on to the system yourself.

The BBS GUI--waiting for a call

The port screen title bar contains a copyright message and the current date and time. At the very left of the title bar is the port number. In the middle of the title bar is the account number and handle of the user currently on-line.

There are two pull-down menus available while waiting for a call. Many of the options have Amiga-key equivalents: hold down the right-Amiga-key and press the command letter. A couple of the menu options have "control-key" equivalents. The control key is represented as a "^". Hold down the control (Ctrl) key and press the command letter.

The "Idle" menu contains the following options:

Logon (SPACE bar): logon to the BBS in "Local Mode".

AutoLogon (TAB key): enter "local mode" and automatically logon as account number 1 (presumably, you, the sysop). AutoLogon is not possible if the control panel is locked.

Terminal: a quick and dirty terminal program offering fast file transfers and text capture capabilities. It also offers a high level of ANSI support. The terminal is described in a section later in this chapter.

Answer/ATA: pick up the phone and send the answer carrier. CNet will proceed as if "RING" had been heard from the modem. This option is useful for when you are using the same line for voice and data, and want to immediately connect a modem caller to the BBS.

Offline: if you checkmark this option, CNet will CLOSE the serial port, therefore making it impossible to accept calls. When you remove the checkmark, CNet will resume control of the serial port. This option is useful for when you are using other software requiring access to the serial port, but do not wish to completely remove the CNet port from memory. One example might be the FidoNet mailer program called "TrapDoor". TrapDoor setup is explained in the chapter on networking.

Display (clock, SA monitor, SA graph): select what will be displayed. The clock uses a 128 point font so it can be visible across the room. The SA monitor gives quick stats about what's on the BBS, and what the last caller did. The SA graph gives a graphical representation of system activity versus time of day.

The "screen" menu gives the following options:

Stat window: remove or replace the user status window. The user status window is described in a section later in this chapter.

Half screen: when in "half screen mode" CNet will only use the top half of the screen for text output. This allows you to "layer" more than one screen to see the activity of two users at once. When in half-interlace, half screen mode allows you to layer FOUR screens. There are areas of the BBS which do not allow half screen mode. These are the visual editor and the visual data editor.

Workbench: toggle between a full screen and a window on the workbench screen. The workbench window will use the default workbench colors. Remember that users will always see the colors as configured by their terminal programs.

Close screen: close the port's screen or window. When in workbench mode, you can also click the "close" gadget to close the window. To re-open the port's screen or window, double click in the control panel anywhere to the right of the port's number.

Colors (2,4,8,16): the number of colors used with the

port's screen. Colors are configured using the CONFIG "display..." screen. 2-color mode provides the fastest display, and should be used if you have a busy system, or users experience errors uploading or downloading at high speeds. 8 and 16 color modes slow the processor considerably, possibly making other ports sluggish. REMEMBER that no matter what you have this option set to, remote users will ALWAYS see full-color if their terminal programs are configured that way.

Interlace (off,half,full): with this option set to "half" or "full," CNet will open a screen with double the vertical resolution of a normal screen. In half-interlace mode, CNet will only use the top half of the screen (about 24 lines in NTSC). In full-interlace mode, CNet will use the entire screen (about 49 lines in NTSC).

The BBS GUI--user on-line

The "screen" menu is also available while a user is on-line. The "online" menu contains the following options:

Hangup: immediately cut the user's time to zero and hang up. Just like the "clear line" menu option in the control panel.

Chat mode: enter a one-on-one chat mode with the user. The user will not be able to exit using control-X. You alone may end the chat by again selecting the "chat mode" menu option.

Local mode: place the user on "hold" while you take control of the keyboard and BBS. The user is told "the sysop has entered local mode. One moment..." The user will not be able to see what you are doing while you are in local mode. The port is also temporarily given full maintenance access. Select the "local mode" option again to return control to the user.

Printer: toggle the printer on and off. When the printer is on, CNet will echo all screen output to the printer.

Capture (open, save to file, append file, send to prt:, clear): when the capture buffer is open, CNet will send all screen output to the file "RAM:portX.cap" where X is the port

number. The CLEAR option will reset the length of this file to 0. You may open and close the capture buffer as often as you like. When the capture buffer is closed, you may save the file or send the file to the printer. An "append file" option is included to add the capture buffer to an existing file. The "save to file" option will overwrite any existing file with the same name. There is a user "privilege flag" which will automatically open the capture buffer when the user logs on, and close it when he logs off. If you use this privilege flag, you must remember to periodically CLEAR the capture buffer to prevent your RAM from becoming full.

The user status window

The user status window contains a great deal of information about the user currently on-line, or last on-line. The status window may automatically be closed while a user is on-line according to the setting of the CONFIG "close status window at logon" option. It may be toggled on and off using the "screen" pull-down menu.

The first section of the status window contains user profile information. The user's real name, gender (M or F), city/state, zip code, voice phone#, data phone#, country, and birth date.

AC :the user's access group number, and access group name.
CO :the user's computer type. The three numbers after the computer type show the user's terminal type, ANSI level, and help level.
LC : the user's last call date.
C# :the user's total calls, and the number of calls the system has received in total (not including logins from the local console).

UF : the number of files uploaded.
DF : the number of files downloaded.
UK : the number of kilobytes uploaded.
DK : the number of kilobytes downloaded.

CF : the user's file upload ratio #1, and number of file credits.

DF : shows the user's byte upload ratio #1, and his number of byte credits.

The first "DY" shows the number of files downloaded today, and the total number the user is limited to. The second "DY" shows the number of kilobytes downloaded today, and the total number the user is limited to.

"TI" shows the amount of time the user has left, and the maximum amount allowed per call. "999" indicates unlimited time, and does not decrease. When time remaining is less than 10 minutes, tenths of minutes show. "$$" shows the user's account balance (in cents), not including the charges accumulated for the current call. "CA" shows the number of calls the user has made to the system today, and the total number he is limited to for the day. "MI" shows the number of minutes the user has spent on the system today (not including the time for the current call), followed by the number of minutes per day to which the user is limited.

The bottom line of the control panel shows the current prompt, the last executed command, the baud rate, and the logon time and method (SON for signon, etc). The right side of the bottom line shows the time remaining until the next BBS event for this port. If the BBS event is "late" (that is, of the type "only if system is idle" and its scheduled time has passed), a "!" will show to the left of the time remaining, indicating that an event is "waiting" to happen just after this user logs off. If the user's "sysop comment" field is set, this will be displayed in place of the baud rate and logon time.

You may set many of the status window variables while the user is still on-line. You may set the access group, and all of the credit and time variables. To set one of these variables, use the mouse to click on it in the status window. The field's background color will become purple. Use the number keys to change the displayed value. Use the "." key to reset the value to 0. Use the "-" key to toggle the value negative and positive. Use the ENTER key, or click into another position in the status window when you are finished.

Terminal mode

CNet offers a simple built-in terminal. This terminal provides many convenient features like file transfer, text buffer, and ANSI compatibility. Although we do occasionally make improvements to the terminal, it really was not designed to compete with your favorite full-featured term. It was included strictly for convenience.

The "online" and "screen" menus are both available while in terminal mode. The "term" menu contains the following options:

Baud: select any of the popular baud rates. You can also control the "locked" baud rate mode.

XPR download: select a receive directory, and a file transfer protocol. You must have the AmigaDOS "asl.library" file in your LIBS: directory to use this feature.

XPR upload: select files to send, and a file transfer protocol. You may select more than one file from the directory to "batch" send. You must have the AmigaDOS "asl.library" file in your LIBS: directory to use this feature.

8 bit word: if unselected, the terminal will chop the "high bit" from each incoming byte. Unselect the "8 bit word" option if you are connected with a system using 7 bit data words (and possibly parity checking).

Reset terminal: clear the screen, reset the ANSI video modes, and send the modem's terminal initialization string.

JoinLink: go to JoinLink mode. See the "inter-user communication" chapter for more information.

Quit/NO CARRIER: if this option is check-marked, the terminal will automatically Quit when it detects loss of carrier. This is a handy feature if you are downloading from a BBS using the auto-logoff feature, and want to reset the port when you are done, but do not want to wait around to do it.

Quit: immediately hang up and return to "idle" mode.

Notes:

The Configuration Editor

CNet's GUI configuration editor is the program that you will use to make changes to your BBS's configuration options. If this if your first time setting up CNet, you will want to first read the "modems" section of this chapter. Additional sections of this chapter describe configuration options which are preset to adequate default values. You may come back to the configuration editor to make changes at any time once you have the system operational.

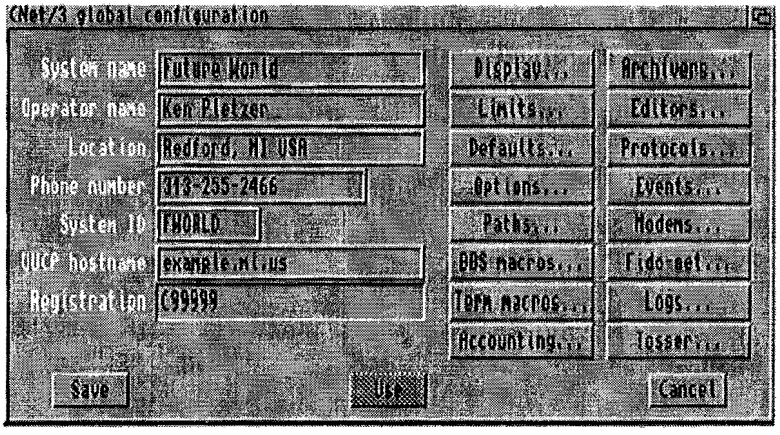
Running the Configuration Editor

From the Shell, use the command

CNET:CONFIG

to run the configuration editor. Once you have the system configured, it is also helpful to know that there is an option from the control panel's pull down menu to run the configuration editor.

If the configuration editor loads successfully, a window will open on your workbench screen with the title "CNet/3 global configuration."



General System Information

Directly on the configuration editor window, you are able to set your system's name, the operator's name (your name), the system's location, the primary BBS phone number, and a short BBS identifier (up to 8 characters).

These data are used by the QWK message packing system, but may in the future be used by other parts of the BBS as well. If you have a UUCP (the UseNet network) address for your BBS, you may specify this here.

Display

From this screen, you may edit the following information:

FONT: By default, CNet uses a special font "cnet21.font" which contains a hybrid of IBM style character graphics and CBM characters. You may specify any font you wish, as long as it is non-proportional, and 8X8 in size. "Topaz.font" is the Amiga's default system font. Note that this configures the font that will be used on your local console BBS port screens only. It does not in any way affect what the remote callers will see.

DEFAULT COLOR: This will specify the color that CNet will "default" to when no other color has been specified. It is, in general, the color of prompt input, and messages in the message base. You are able to choose from the standard 16 ANSI colors.

SCREEN DIM PAUSE: Screen dimming is used to save wear on your monitor screen. When a port's screen is open, and the port is "waiting for a call," CNet will automatically dim the screen after this number of 1/10 seconds have elapsed. The screen will automatically return to full brightness once the mouse is moved, the keyboard is touched, or a call comes in.

SCREEN DIM INTENSITY: This parameter controls the degree to which the screen will be dimmed within a range of 0 to 15. Specifying 0 will make the screen appear completely black, 15 will make the screen to appear not to dim at all.

SCREEN: Your CNet port screens can be viewed from your local console in either 2, 4, 6, 8, or 16 color modes, as determined by the port screen's pull down menu. Use this gadget to select which screen mode's colors will be edited with the Red, Green, and Blue slider gadgets. The Screen gadget will cycle through 2, 4, 8, and 16 color modes. NOTE: The number of colors and their appearance on the

CNet port screens do NOT determine what the user will see. What the user sees depends on his own terminal program configuration. CNet always sends full 16 color text and graphics to the user no matter the number of colors you see on the port screen. These color configuration options are here only to allow you to change the appearance of your port screens as seen from the console.

COLOR: Use this gadget to determine which local screen display color will be changed by the Red, Green, and Blue slider gadgets.

Limits

HIGHEST UDBASEX PARTITION: Set this to ONE LESS than the number of hard drive partitions that you will be using with CNet for purposes of file transfer (uploading and downloading). In order to check free drive space at various points in the BBS operation, CNet needs these partitions to be assigned as UDBASE0:, UDBASE1:, UDBASE2:, etc., each one corresponding to a hard drive partition (eg., DH0:, DH2:, FH2:, etc). If you have only one such partition, you should leave this number at 0. If you have 2 partitions, change this number to 1. This number is by logic, the number of hard drive partitions you have MINUS ONE.

SHORT DESCRIPTION LINES: Each file in the Uploads area may have attached to it a "short" description. This description is 44 characters wide, and may be up to 8 lines long, as you are able to configure here. If you shorten this value after the system has been operating, it will not affect existing descriptions.

MAX PFILES RUNNING AT ONCE: Use this value to control the number of external program file (games and utilities you make available to your users, also called "doors") tasks that you wish to allow to operate at the same time. When setting this value, you really must only consider the amount of RAM memory you have available. You will not need to set this value higher than the number of ports that you are running.

MAX USER ACCOUNTS: CNet will use this value to determine whether or not to accept a new user. Memory is

allocated for the user index files when the BBS ports are loaded. If you change this value, you must close all of your ports and reload them to have it take effect.

MAXIMUM CONFERENCE ROOMS: This determines whether or not CNet will allow the creation of a new conference room in the "Join" inter-user conferencing system. Each room occupies about 20K of memory. This value includes public and private user rooms.

HIGHEST NETWORK JOINLINK ID: When using the JoinLink feature (described in detail in the Inter-User Communications chapter), this value determines the maximum number of systems that are linked together in the JoinLink network. Memory is allocated for this option when your BBS ports are loaded. If you change this value, you must close all of your ports and reload them in order for it to take effect.

MAXIMUM UD/BASE SUBBOARDS: Use this value to determine the maximum number of subboard (Upload areas and Message areas combined) that you will have on the BBS. Also include subdirectories when computing this value. It is OK to over estimate this value, however, remember that each subboard specified here will occupy at least 600 bytes of memory. If you specify a number less than the actual number of subboards that you have, CNet will auto-adjust it higher at load time. When there is no room for a new subboard, the "AL" (Add a new subboard to the List) command (described in the subboard chapter) will fail. Memory is allocated for the subboard structures at load time. If you change this value, you must close all of your ports and reload them in order for it to take effect.

MAXIMUM SELECTED FILES: Users can use the * command to select files for later batch downloading. If the user does not take the selected files right away, the list is "remembered" until their next call. This value determines the maximum number of files that a user may select at once. Memory is allocated for the user select buffers at load time. If you change this value, you must close all of your ports and reload them in order for it to take effect.

MAXIMUM UPLOADS PER BATCH: This value determines the number of files that a user may upload at

one time. Memory is allocated only while the upload is taking place. Changes to this value take effect as of the commencement of the next batch upload.

MAXIMUM G/PFILES PER LIST: This value controls the number of GFiles (General text files), PFiles (Program files), or News files that may be contained on one of the respective lists. These file areas are described in a later chapter. Memory is allocated for these lists at load time. If you change this value, you must close all of your ports and reload them in order for it to take effect.

MAXIMUM YANK TASKS: "Yanking" refers to packing messages for download. CNet does this as a background task. This value determines the number of Yank processes that may be allowed to run "in the background" at one time. Each yank task uses a considerable amount of memory, especially if you have the yank work path set to RAM:. Set this higher than 1 only if you know that you have some memory to spare.

MAXIMUM YANK FILE SIZE: This value allows you to limit the amount of messages (in file size) that may be yanked at one time by a given yank task. Having a limit prevents the user from yanking too many messages, resulting in out-of-memory, or creating yank files that use too much disk space. If a yank task is aborted because this limit is reached, the user will be notified of that fact, and will be given the change to yank again, picking up where the previous yank left off.

DAYS TO HOLD USER YANK FILES: Because users can begin yank tasks and then log off, this value was necessary to prevent the accumulation of too many yank files "waiting" for users to return online. The auto-maintenance program ("amaint") automatically searches and purges old yank files.

MAXIMUM LOGON ATTEMPTS: This value controls the number of ID and password attempts that a user may make before the system will deny him access.

LOGON TIME: This value (in 1/10 minutes) determines the amount of time that a user has from the moment of

modem connection until he must be successfully logged on.

MAXIMUM YANK FILES PER USER: This value determines how many times a user may run the yank task before downloading the results from the previous run(s).

BBSLIST AUTO-PURGE: This values determines how long an entry is kept in the BBSLIST program. This feature forces users to edit or re-add BBS's to the list on a constant cycle in order for systems to remain on the list. This prevents "old" systems from remaining on the list.

Defaults

DEFAULT COUNTRY: Used by the New User program and the BBSLIST program. This will be the default country name the user is prompted with when asked to enter their own.

DEFAULT AREA CODE: Used by the New User program and the BBSLIST program.

DEFAULT PROTOCOL: Used by the new user program to determine which file transfer protocol to assign to new users. Use only the one character IDENTIFIER associated with that protocol. Users can change this at any time when beginning a file transfer.

YANK PREFIX: These characters will appear as the first two characters in the filenames of Yank files.

DEFAULT GAME POINTS: Used by the new user program to assign a value to the user's game points variable. This variable is not used directly by CNet, but may be used by third party game software.

DEFAULT BALANCE: If you use the accounting system, the new user program will give users a balance as you specify here (in cents).

DEFAULT TIME FORMAT: Used by the new user program to set the user's default time display format. Users can change this at any time by using the EP command.

DEFAULT NET CREDITS: Used by the new user

program to assign a value to the user's network credits variable. This variable is used by the NETMAIL feature, described in a later chapter.

DEFAULT BYTE CREDITS: Used by the new user program to assign a beginning balance of file exchange (per byte) credits to the user. The credits system is described in considerable detail in another section.

DEFAULT FILE CREDITS: Used by the new user program to assign a beginning balance of file exchange (per file) credits to the user.

DEFAULT JOINLINK ID#: JoinLink is a special CNet feature which allows two or more multi-line BBS's to combine their conference areas. Each BBS participating in a JoinLink must be assigned an ID number. If you use the JoinLink feature, you must select a number here not greater than the "maximum number of JoinLink IDs" that you set in the "Limits..." screen. You must also select an ID number for your BBS that does not match any of the JoinLink IDs used by other systems in your JoinLink network. JoinLink is described in the inter-user communication chapter.

JOINLINK PASSWORD: JoinLink may be made completely automated. Specifying a password here allows users and BBSs to automatically invoke your JoinLink from remote.

Options

ALLOW FEEDBACK AT LOGON: If a user exhausts the maximum number of logon attempts when trying to logon to your BBS, this option determines whether or not he will be given the opportunity to leave you feedback before being disconnected.

ALLOW WHO/USERLIST AT LOGON: If you run a completely private system, you may not want to enable this option. Otherwise, if enabled, this option allows callers to use the WHO command at the logon prompt to see who is currently online. It also allows a user-search prompt to appear if the user enters a handle or name which is not recognized by the BBS.

ALLOW GUEST USERS: If enabled, users will be able to complete the new user program, but WITHOUT selecting a password. This makes the user's stay on the BBS "temporary" and the user is immediately auto-deleted when he logs off (or at auto-maintenance if the system crashes while he is online). Guest users are indistinguishable from other normal users while they are online. A sysop may edit the account of a guest user while he is online, give a password, and thus prevent the user from being deleted.

STATUS WINDOW OFF AT LOGON: If enabled, the status window (window containing user information) at the top of each port screen will be closed (invisible) when a user is online. It can be manually re-opened by using the pull-down menu option on each port screen. Note that this applies to remote logons ONLY. The status window always defaults to OFF for local console calls.

KEEP USER CONFERENCE PREFS: A user may custom configure a great deal of information concerning the inter-user conference Join program. If this option is enabled, this information is kept on disk file. Doing so occupies about 500 bytes of disk space per user.

FEEDBACK GOES TO USER 1: If you like to read only one set of mail, enable this option. Normally, feedback goes to a separate mailbox, and must be read by using the VF command. You can override this, however, and have feedback sent directly to your mailbox.

INDENT MESSAGES ONE SPACE: In the messages base, it often looks "cleaner" to have messages indented as they are read, to set them off from the message headers and other informative text. If, however, you operate with an extreme amount of "cursor dancing" type messages, it may be a good idea not to enable to this option in order to prevent those messages from being somewhat garbled.

USE MULTIPLE TEXT SETS: CNet has the ability to operate with more than one language or "style" of text and menus. Text for the default language or style is stored in the files CNET:BBSTEXT and CNET:BBSMENU, and inside the directory SYSTEXT:. You may create additional BBSTEXT, BBSMENU, and system text files sets. Use

this option to specify whether or not you intend to use the multiple language/style feature. You can set this option to "user selectable" or "port specific." If you specify user selectable, users will be asked when they first log on "new" to select a style from a list, and may change their selection at any later time by using the EP command. If you select port specific, each port on the system is "bound" to a specific language or style, beyond the user's control (you may have one English port, and one German port). Much more will be covered about this topic in the System Extensions and Modifications chapter.

VALIDATE NEW USERS WITH CALLER ID: If you have caller ID on a line, and a new user logs on with a caller ID signal which matches the data phone number they enter, this option will automatically raise the user's access level from 0 to 1.

SKIP HANDLE PROMPT WITH CALLER ID: If a caller ID signal is detected, and the user's phone number matches one or more accounts in the user database, this option will cause the logon procedure to skip directly to the "enter password" prompt. If the user's phone number matches more than one account, CNet will search those accounts for the one with the matching password. By hitting RETURN at the password prompt, the user will be returned to the "enter handle" prompt, in case he is calling from a line that is not his own. Many caller ID security features are supported by CNet, and are configurable for the users' individual accounts.

DON'T ANSWER WITHOUT CALLER ID MATCH: This security option prevents CNet from even answering the phone if the user calling is not in the user database. There are many other possible uses for this feature, such as using CNet to operate a small private system on a voice line.

SKIP IDLE PORTS ON WHO DISPLAY: When a user does a WHO command (to find out who else is online) if you have a large number of ports, you can save the user time and screen space by only listing the ports which are currently in use. If you have a small number of ports (a display that will not fill a screen), then you might not want

to skip the idle ports, just to show the users that you have more available ports.

DELETE UUCP MESSAGES WHEN KILLED: If you run UUCP (The UseNet network) through CNet, and have this option enabled, messages in the UUCP directories will be killed whenever their headers are killed anywhere in CNet. This helps to clear out un-used UUCP messages from your UUCP areas. You may not want to enable to this option if you have other software that also relies on the UUCP messages to be there.

Paths

OLM TEMP: When users write inter-user On-Line Messages, they must be temporarily stored somewhere. Usually RAM is a convenient place, as these files do not get very large, and are quickly deleted.

ARC EXAMINE TEMP: When users use the Examine command to view the contents of an uploaded archive (several files bundled together and compressed into one file), the output must be temporarily stored somewhere. Usually RAM makes a quick and convenient place, as these files do not get very large, and are quickly deleted.

YANK/QWK PACKING: Yank tasks are very disk-intensive, and are therefore a LOT faster in RAM if you can spare it. Select this option carefully. To estimate how much space you will need, referring to the "limits..." screen, take the number of "yank tasks simultaneously" and multiple that by the "maximum yank size" and then multiply that by 2. The result is in Kilobytes. If this number is something that you can live comfortably with in RAM, leave it set there. Otherwise, set it to a hard drive partition with adequate room.

EDITOR TEMP FILES: As text is loaded into the editor, edited, and then saved, CNet must store the text somewhere temporarily. The average size of an editor buffer is about 5-10K. If you have spare this amount of memory (per port) in RAM, you are well advised to keep it set there to keep the system running quickly. If necessary, you may set this to a hard drive partition with adequate room.

OPTIONAL VDE: The files located in the SYSTEXT:VDE directory contain the screen information for the visual data editor screens such as seen when using the EL, AL, EA, EG commands. If you perform these commands often enough to warrant it, you may wish to keep these files in RAM so that VDE screens can be created a little faster.

DEF. TERM U/D: This allows you to specify where CNet will first attempt to upload or download files when you use the upload or download files feature of CNet's built-in term program.

CD ROM U/D TEMP: When you create a subboard to access files located on a CD ROM drive, and set the subboard flag "Use CD-ROM temp dir" to YES, this path specifies WHERE files are copied to prior to being downloaded. Copying files to a temporary download directory is almost mandatory for 6-pack and other multi-disk CD ROM units to prevent erratic access to these devices. CNet will allow only one BBS process to access the CD ROM at a time.

SPELL DICTIONARY: If you have the RAM to spare, you can place the CNet files "dict" and "dict.index" in RAM to greatly increase the performance of the built-in spell checker. If you do not have the RAM to spare, specify the path to these files. Note that you might have to modify your AmigaDOS startup script to copy these files to the proper directory whenever you reboot your Amiga so CNet can find them.

FIDO INBOUND: If you are running Fido-Net, you need an inbound directory. Most people find MAIL:INBOUND/ to be most convenient.

FIDO OUTBOUND: If you are running Fido-Net, this is the corresponding OUTBOUND directory path. Most people keep it set to MAIL:OUTBOUND/.

FIDO NODELIST: If you are running fidonet, you must specify this path. To keep things simple and consistent, it is recommended that you use MAIL:NODELIST/.

BBS Macros

The text that you specify here will be typed all at once whenever you press the corresponding function key, F1 through F10, during BBS operation. The only special character is ‘ (backwards apostrophe) which represents a press of the ENTER key.

Term Macros

These macros are analogous to the BBS macros, but are used in CNet's built in terminal mode only, in place of the normal BBS macros.

Accounting...

CNet has the ability to maintain an actual monetary "account balance" for each user. The user account balance field has the units of CENTS (in other countries, substitute your lowest currency denomination). Each new user is given the initial balance as set from the CONFIG "defaults..." screen. While a user is online, his balance is displayed in the status window next to the "$$." The balance displayed does not reflect charges as they accumulate for the current call in progress. You can manually SET a user's account balance by using the "EA" command or by using the mouse to click on the balance in the status window while the user is online.

There are MANY ways to automatically charge for activity on the BBS. You can charge for time, for downloading, for voting, etc. You can also CREDIT users for activities, perhaps uploading or posting. The convention in use is that CHARGES appear as and are entered as POSITIVE numbers, and CREDITS appear as and are entered as NEGATIVE numbers.

The accounting system is very configurable (and therefore somewhat complex). There is much more to it than simply setting values for each of the BBS activities. These values can be made to change depending on the access group, the time of day, and the specific subboard in use.

The one term to become familiar with is "schedule." An accounting system schedule is the list of charges in use at a

particular time. Unless changed with a BBSEVENT (described later), CNet will always use SCHEDULE 0. Within a schedule is a complete list of charges for each bbs activity for EACH ACCESS GROUP.

When you first select "accounting..." from the CONFIG main screen, you will see two windows. The first will be a list of the schedules that exist on disk. CNet comes pre-configured with a schedule 0, so you should see a "0" in that window. The second window is a list of charges and other accounting variables. The "access:" slider below the charges window can be used to change the list of charges to show the values for each of the 32 access groups (0 to 31). Each charge has a description, units, and a current value. Units of "c" are cents, and units of ".01c" are Hundredths of a cent.

To edit a particular schedule, use the mouse to click on its number in the list of schedules window. The schedule number should appear in the box below the list of schedules window. To change any value, use the mouse to click on the description of the charge that you wish to change. The current value and the cursor should appear in the "value" box below the list of charges. Type the new value and press ENTER. Use the "access" slider to edit the charges of the different access groups. Your changes are saved if you select "save" when exiting the CONFIG program.

To create a NEW schedule (remember you must use BBSEVENTS to make use of schedules other than 0), click on the "NEW" button. The cursor will appear in the box below the list of schedules. Enter a number (not already on the list of schedules!) and press ENTER. Make changes to the charges as necessary. Click on "ADD" when you have completed. Do NOT forget to click on "ADD!" Exiting this screen without adding the new schedule to the list of schedules will cause your new schedule to be LOST.

The "COPY" button is used like "NEW" except you must first select an existing schedule (by clicking on its number). Then click on "COPY." The cursor will appear in the box below the list of schedules. Enter a unique number for your new schedule. The difference is that the charges from the first schedule you selected are COPIED into this new

schedule. Make any changes as appropriate. Do not forget to click on "ADD."

To remove a schedule from the list, click on the schedule number and then the "REMOVE" button. Schedules will actually be deleted only if you select "SAVE" when exiting the CONFIG program.

Following is a list of the charges available. Many of the them are mentioned elsewhere in the manual when their functions are discussed. Most of them are self explanatory.

Minimum balance allowed (c): the lowest actual value a user can have in the "balance" field before the BBS will stop the user from performing charged-for activities. In general, this will be a negative number. It tells the user how far in debt he can go before being "cut-off." Of course the user will always be able to perform "credit" activities.

New AG if balance prevents logon: this is an access group number, 0 to 31. If a user's balance is so low that he is unable to even logon (because of per-minute, per-call, per-day, per-month charges), CNet will automatically change the user's access group to this number and attempt the logon procedure again. Set this number to -1 if you do not wish to use this feature.

Each successful logon (c)

First call in any day (c)

First call in any week (Sun-Sun) (c)

First call in any month (c)

Each use of Re-logon command (.01c)

Per minute of connect time (.01c)

Per OLM sent (.01c): see the inter-user communication chapter.

Per successful FINGER command (.01c)

Per minute in the conference (.01c): this is the Join

tele-conference. See the inter-user communication chapter.

Per minute in InterUserChat (.01c): the CC command. See the inter-user communication chapter.

Per minute in gfiles/news (1 to 3) (.01c): used with the "area use rate" field found on the "EL" screen from the News or Gfiles areas. The "area use rate" can be used to select one of these three values, so that different values can be used depending on the subdirectory that the user is in. If "area use rate" is set to 0, the user will not be charged for being in that area.

Per gfile read/downloaded (1 to 3) (.01c): used with the "item use rate" field found on the "AT" screen when using the "AT" command to edit a text file. The "item use rate" can be used to select one of these three values to charge the user when the user reads or downloads the item. If "item use rate" is 0, the user will not be charge for reading or downloading the item.

Per minute in PFILES (1 to 3) (.01c): just like the "per minute in gfiles/news," but these values are used when in the Pfiles area.

Per pfile execution (1 to 3) (.01c): just like the "per gfile read/downloaded," but these values are used with the "item use rate" when a pfile is executed.

Per item sent as feedback (.01c): the "F" command.

Per item sent as e-mail (.01c): normal "local" e-mail.

Per item read as e-mail (.01c): all e-mail received, urgent, local, network.

Per e-mail item re-edited (MV) (.01c): when mail is changed using the "MV" command.

Per e-mail item removed (MV) (.01c): when mail is killed using the "MV" command.

Per FIDO NetMail sent (.01c)

Per UUCP NetMail sent (.01c)

Per minute using the Vote booth (.01c)

Per vote cast in Vote booth (.01c)

Per minute using subboard (1 to 3) (.01c): used with the "subboard use rate" field in the "EL" screen of any subboard. The "subboard use rate" determines which of these three values to use in the subboard. If "subboard use rate" is set to 0, the user is not charged for being in the subboard.

Per item read in subboard (.01c): can be nullified if the subboard flag "no read charges" is set to Yes.

Per post in subboard (.01c): can be nullified if the subboard flag "no post/rep charges" is set to Yes.

Per response in subboard (.01c): can be nullified if the subboard flag "no post/rep charges" is set to Yes.

Per subboard item re-edited (ED) (.01c): any post, response, or long file description edited.

Per subboard item removed (K) (.01c): any post, file, or response killed.

Per YANK task launched (.01c): subboard command.

Per local text search (Z) (.01c): subboard command.

Per global text search (ZG) (.01c): subboard command.

Per KByte downloaded (1 to 3) (.01c): used with the "dnload byte charge#" field in the "EL" screen of a subboard. The value of "dnload byte charge#" determines which of these three values is used. If "dnload byte charge#" is set to 0, the user is not charged for the amount that he downloads in that subboard. Versions of the "dnload byte charge#" and the three other charge#'s mentioned in the next three paragraphs also appear in the "EL" screen from the Gfiles/Pfiles/News prompts for use with the downloading of text files.

Per file downloaded (1 to 3) (.01c): used with the "dnload file charge#" field in the "EL" screen of a subboard. The value of "dnload file charge#" determines which of these three values is used. If "dnload file charge#" is set to 0, the user is not charged for each file that he downloads in that subboard.

Per KByte uploaded (1 to 3) (.01c): used with the "upload byte charge#" field in the "EL" screen of a subboard. The value of "upload byte charge#" determines which of these three values is used. If "upload byte charge#" is set to 0, the user is not charged (or credited) for the amount that he uploads. Often, these values, as well as "per file uploaded" are set to negative numbers (credits).

Per file uploaded (1 to 3) (.01c): used with the "upload file charge#" field in the "EL" screen of a subboard. The value of "upload file charge#" determines which of these three values is used. If "upload file charge#" is set to 0, the user is not charged (or credited) for the number of files that he uploads.

Per minute using the UserList (.01c)

Per minute using the BBSList (.01c)

Per addition to the BBSList (.01c)

Per use of TermLink (.01c): each time the "TERM" command is used (with "full" access), or used with a successful connection (with "limited" access).

Per minute using TermLink (1 to 3) (.01c): these values are used with the "rate" field in the "termlink" file as described in the inter-user communication chapter. The value of "rate" determines which of these three values to use. If "rate" is set to 0, the user is not charged for the termlink connection.

While online, a user can receive a summary of his account balance and current call charges by using the "AC" command. Selecting "detail" will show a breakdown of each type of charge accumulated.

Archivers...

The CONFIG program's list of archivers (like ARC, DMS, LHA, ZIP, ZOO) is used in conjunction with at least six BBS functions.

First, the list of archivers provides the information necessary to use the "Examine" subboard command. Each archive type can have associated with it a "view format." The view format is used to create the DOS command necessary to display the contents (list of files) within an archived file. A view format looks something like this:

```
zoo › %s v "%s"
```

"Zoo" is the DOS command. "› %s" causes the output of the Zoo to be redirected to a file. This "%s" will be replaced with an appropriate temporary filename. The "v" is an argument for the "zoo" program. The second "%s" will be replaced with the archived file's path and filename. all view formats must be of this general format.

Second, the list of archivers provides the information necessary to perform the "TEst" subboard command (also performed during auto-maintenance). The "test format" should be similar to the "view format" except that the arguments necessary to "test" the file are substituted in place of the "view" arguments. "Test keyword," "keyword line," and "keyword column" are also all used with the "TEst" command. See the subboard chapter for a complete description of the "TEst" command and these fields.

The third function of the archivers list is to provide DOS command formats for "packing" files. Files are packed by the "Yank" subboard command. See the subboard chapter for a complete description of the Yank command. For example, the "pack format" may look like:

```
arc a %s %s
```

The "arc a" is the DOS command and its argument(s). The "pack format" should always end with two %s's. The first one will be replaced by the temporary name of the new archive. The second one will be replaced by the filename or filename(s) of the file(s) being packed. The ZOO

program currently in use does not support AmigaDOS wildcards, so is "hard-coded" to pack "*," which is an MS-DOS wildcard representing "all files." ".TXT" contains a "pack format" which is really a place-keeper. TXT's pack format line should not be altered.

The fourth use for the archivers list is to EXTRACT archives. The "extract format" field is used when users upload QWK packets. It is also used by TOSS to extract archived packets. The "extract format" is similar to the "pack format" except for the arguments sent to the archiver program. For the "arc" example, the extract format is:

arc a %s %s

If a view, test, pack, or extract command or ability does not exist for a particular archive type, make sure the field is BLANK. CNet knows which archiver types to prompt the user with based on whether or not these fields contain data.

Not all extensions listed in the list of archivers must actually be archivers. Any three character extension may be listed here. Uses are as follows:

The fifth use of the list of archivers is to prevent specific types of files (those with specific extensions) from being uploaded. Each subboard has an "arcs uploadable" field. The range of numbers in this field correspond to the order of the extensions in the list of archivers. A user may not upload a file with an extension listed in the list of archivers unless that extension's number is included in the "arcs uploadable" field. Files with extensions not found in the list of archivers may always be uploaded. To see an extension's number, use the mouse to click on the extension in the list. The number will be displayed to the right of the extension. NOTE that if you change the order of the list of extensions, "arcs uploadable" fields may become invalid.

The sixth use of the list of archivers is to cause only files of certain types (certain extensions) to be Transformed. A file type will NOT be transformed if its extension appears in the list of archivers, but that extension's number is NOT included in the subboard's "arcs transformable" field. See

the subboard chapter's "transformation" section for a more complete discussion.

To edit an archiver's information, use the mouse to click on the extension in the window containing the list of extensions. The extension will appear in the box below, and it's number will appear beside that box. You can use the mouse to click into any of the input boxes to make changes to any specific field.

To add a new archiver to the list, click the "new" button. The cursor will appear in the box below the list of extensions. Enter the extension and press ENTER. All extensions must begin with a period. Click on "add" to actually add your new archiver to the list.

To remove an archiver from the list, first click on the archiver's extension. Then click on the "remove" button.

Editors...

CNet has the ability to incorporate external or "third-party" text editors. These add-on editors may either be designed to be used from a DOS shell, or may be specifically designed to work only with CNet. Because this list of editors is the one that is given to users when choosing a default editor (the EP command), the two "internal" editors are also listed.

The "Line editor" must always appear first in this list. The "visual editor" must always appear second in this list.

Each "external" editor must have a "path" and an "interface" type. The path is the complete path and filename to the editor program itself. The "interface" must be chosen as either DOS or CNet. External DOS editors will be given the filename of the temporary editor file as an argument.

To change an editor, click on the editor's name in the list of editors window. To add a new editor, click on the "new" button and enter all appropriate information. Click on "add" to add your new editor to the list of editors. To remove an editor, first click on the name of the editor, then click on the "remove" button.

The "local mode editor path" may contain an optional path and filename to an AmigaDOS editor to be used from the local console INSTEAD of the chosen "default editor." The name of a temporary file will be passed to the editor as an argument. Many people prefer "CygnusED" from local mode.

Protocols...

CNet uses an Amiga standard in file transfer protocols--the "XPR" protocol interface. XPR protocols are EXTERNAL ".library" files. This allows you to add, remove, or update file transfer protocols at any time. Most XPR's are public domain, and can be found on many larger BBS's. CNet come pre-loaded with the most popular and most reliable XPR's.

Each protocol has a title, a unique ID, a library name, and an "environment" (described below). Each protocol may also be chosen to be a "batch" protocol, and/or a "resumable" protocol.

The title should be something descriptive of the protocol. Usually, protocols have names, like "Zmodem" or "Xmodem," so this field is not too hard to fill in.

The unique ID should be a single CAPITAL letter, number, or symbol. Each protocol's unique ID must be different from the others. The unique ID is the key which the user must press when choosing the protocol from the list of protocols.

The library name is the actual filename of the ".library" file, including the ".library" extension. All XPR protocols begin with "xpr". This filename must match the filename as found in the LIBS: directory.

The environment is a "configuration string". It is passed to the protocol when the protocol is initiated. The environment depends on the protocol in use. If you are adding a new protocol, or wish to reconfigure an existing protocol, you should consult that protocol's documentation.

A "batch" protocol is one that can transfer more than one

file at a time. Zmodem and Ymodem are batch protocols, while Xmodem is not. Batch protocols send the filenames automatically when sending the files. CNet uses this information to allow the user to "skip" the prompt for filename when uploading a file.

A "resumable" protocol is one that can continue an upload that was interrupted, or in some other way unfinished. Zmodem is a resumable protocol. To resume an upload, the "U" command is used with the item's number.

To edit an existing protocol, click on it's title in the list or protocols window. Use the mouse to click into any field to change it. To add a new protocol, click on "new" and then enter all information. Click on "add" to add your new protocol to the list of protocols. To remove a protocol, first click on the protocol's title, and then click on "remove."

Events...

CNet's "event scheduler" is used to dynamically change BBS access requirements, run pfiles and DOS commands, and even to take the board offline and back online. The event scheduler is highly configurable, and can be made to execute events at specific times during the day, the week, the month, and even the year.

There are many event "commands" each of which may take various arguments. These commands are as follows:

RunCNetC: the argument must be the path and filename of a CNet C pfile.

RunARexx: the argument must be the path and filename of an ARexx script file.

RunDOS: the argument must be the path and filename of a DOS shell program. "RunDOS" executes the program interactively, like a pfile. It differs from "DOS-CMD" which executes the argument from the current CLI. Input and output will take place in the Shell from which CNet was loaded.

ReadFile: display a text file on the screen.

DOS-CMD: execute a DOS command using the current CLI. The user will not be shown the output from the command. This is the ONLY bbsevent currently capable of being executed directly from the CONTROL process (do this by leaving the "ports" field blank).

ClosePrt: close the port (when the port is "waiting for a call".) No argument. If used with type "Immediate--force system idle", ClosePrt will "dump" the user from the system and then close the port. If used with type "Immediate--system idle or not", ClosePrt will wait until the user logs off before closing the port.

Charges#: the argument must be the accounting system schedule number. By default, the accounting system uses schedule number 0 at all times. By using this event command, you can dynamically change the active accounting schedule. This is especially useful to charge for "peak" or "prime" times. See the "accounting..." section for more information.

LogonBPS: the argument is the LOWEST baud rate ABLE to logon. If you specify "9600," only callers with 9600 baud modems (or greater) will be able to log on. CNet will not disconnect a user until he has entered his ID and password just in case he has the "bypass bbsevents" privilege flag.

DloadBPS: the argument is the LOWEST baud rate able to download. The "bypass bbsevents" privilege flag overrides this restriction.

UloadBPS: the argument is the LOWEST baud rate able to upload. The "bypass bbsevents" privilege flag overrides this restriction.

LogonACC: the argument is the RANGE of access groups which may logon to the BBS. This is by default ALL groups. The "bypass bbsevents" privilege flag overrides this restriction.

XFersACC: the argument is the RANGE of access groups which may either upload or download. The "bypass bbsevents" privilege flag overrides this restriction.

PfileACC: the argument is the RANGE of access groups which may enter the pfiles, that is, use the "P" command from the Main prompt.

Modem#: similar to the ARexx interface's "modem" command. The argument is a number 0 to 2. Use 0 to completely close the serial device. Use 1 to re-activate and/or re-listen the serial device. Use 2 to "unlisten" the serial device. When in "unlisten" mode, all modem I/O is suspended, but the serial device is not closed. This command is useful when integrating various network mailers or other modem software which "share" a serial port.

CallBack: disable (argument of 0) or enable (argument of 1) the auto-callback at logon feature (user privilege flag). Normally, CNet will attempt to dial all long distance numbers. Use an argument of 2 to insure that CNet will only dial numbers found in the current "avalid" file.

Avalid#: argument is the current "avalid" file number. Normally, you configure just one "avalid" file (the file describing which phone numbers are "local" calls, described in the "logon" chapter). This command allows you to use DIFFERENT avalid files at different times. The search order is (# is the avalid#, and P is the current Port number):

systext:sys.avalid#.P
systext:sys.avalid#
systext:sys.avalid.P
systext:sys.avalid

SysopIn: 0 or 1 (No or Yes), may users page the sysop? This command as well as the next four affect the check-marks on the control panel's pull-down menu.

NewUsers: 0 or 1 (No or Yes), may new users logon?

U/Dbase: 0 or 1 (No or Yes), may users enter the Files area?

Pfiles: 0 or 1 (No or Yes), may users enter the Pfiles area?

Base: 0 or 1 (No or Yes), may users enter the Message area?

JoinLink: 0, 1, 2, or dialing instructions. Used in conjunction with the Join-link feature (see the inter-user communication chapter). Use 1 to allow incoming automatic joinlink connections. Use 2 to allow ONLY incoming automatic joinlink calls (no other users). Use 0 to not accept any joinlink calls. The argument may also contain "dial instructions" when auto-dialing to another joinlink site. The format is (# is a phone number, and "pass" is the remote system's joinlink password):

ATDT# pass

On-Line: take the system offline (argument of 0) or back online (argument of 1). The only effect this command has is that when "offline," the system will not answer the phone. The current caller will not be interrupted (unless the event type is "force idle.")

For each event, you must specify the PORTS on which the event will occur. This can be any valid RANGE of port numbers. When using the "DOS-CMD" event command, you can leave the PORTS field blank. In this case, the CONTROL panel will execute the DOS-CMD. This is especially useful to "run" bbs ports not currently open.

Each event has one of four TYPES: "Immediate--system idle or not" will execute the command whether or not there is a user online. This is usually preferable for "access restriction" commands--those that change baud rates, access groups, or configuration settings.

"Immediate--force system idle" will limit a user's time online in order to CLEAR the line at the event's PRECISE time. There is really is no way around this type of event--CNet will do everything possible to clear the line on time. It is usually preferable for system critical programs like auto-maintenance and network mailers.

The **"Only if system is idle"** type can be used for events which are not system critical. If a user is online at the scheduled event time, the event will not occur, but will

"wait" until the user logs off. If the event is still "valid," it will occur at that time. "Valid" times will be described shortly. This event type is usually used for third party maintenance programs and hourly network functions.

The **"Only if a user is online"** type can be used to run pfiles whose purpose is to, perhaps, display random user messages, such as a recurring system news item or an advertisment. This event type is used for events which are of little system value unless a user is online.

Events can be either weekly, monthly, or yearly. You can select an event to be weekly by placing check-marks in the boxes corresponding to the weekdays on which you would like the event to occur. If you want the event to occur daily, place check-marks in all seven boxes. To select an event to be monthly or yearly, no check-marks must appear in the daily boxes. For a monthly event, enter just the numeric date in the "[mm/]dd" box. The event will occur only on that date during each month. NOTE that if you specify "31" for example, the event will occur only in months with 31 days. For a yearly event, enter both the month and year in the "[mm/]dd" box.

Each event has a definite starting time. Enter the time in military format, like "2100" for 9pm, or "0" for midnight, or "10" for 10 minutes after midnight. Events will occur at the time specified here unless a user is online and the event type is "Only if system is idle."

The "valid" field is the amount of time (in military hours and minutes) for which the event is useful. It is NOT an estimated length of time of execution. If for some reason CNet is unable to execute the event at the scheduled time, CNet will use the "valid" field to determine how much time must pass before the event will be skipped altogether. For example, if an event is of type "Only if system is idle," and a user is online at the scheduled event time, the event will not occur. However, if the user later logs off, and the "valid" time has not yet passed, the event is considered "still valid" and WILL occur at the idle screen. Conversely, if an event is of type "Only if a user is online," and a user is NOT online at the scheduled time, the event will not occur. However, if a user later logs on, and the "valid" time has not yet passed, the event WILL occur when the user is

online. The one other time that the "valid" field is important is when you first load CNet. If you have amaint set to run at 400, and valid for 100, and you load CNet at 430 or even 459, amaint will run. "Valid" must be set to at LEAST 1 minute. If set "valid" to 0, the event will NEVER occur. It is fine and often necessary for "valid" times to cross day boundaries.

Many times, you may want to "repeat" events, perhaps every hour, two hours, or even every minute. Without manually entering each event, this is possible with the "iterate" and "interval" fields. Set iterate to the absolute number of times you want this event to occur. Set the interval to the amount of time (military hours and minutes) to wait between iterations of the event. This ability is especially useful for network mailers. It is also useful when you desire to display random or recurring messages to the user(s) by using pfiles, as often as once each minute.

CNet will extend events into new days if you select long enough intervals and enough iterations. If you specify 24 iterations with an interval of 200, this event will occur every two hours for TWO days. If the event is set to occur every Monday, the event will occur during Monday AND Tuesday. NOTE that if you also select the event to occur on Tuesday that the event will then appear to run TWICE on Tuesday.

To edit an existing event, click on the event in the "events" window. The events window shows the commands and arguments of all events. To add a new event, click on "new." Enter all information, in addition to selecting an event "command" from the "command" window. Click "add" to add the new event to the list of events. To remove an existing item, click on its entry in the events window, then click "remove."

Many events are straightforward. With access restriction or configuration commands, however, there is one thing you should be sure to do: To account for system re-boots at any time during the day, you should account for all 24 hours in the event "time" and "valid" fields.

For example, if you want only 9600 baud (and higher)

callers at all times, the following event is useful:

command: LogonBPS, args: 9600, type: System idle or not
time: 0
valid: 2400

However, if you want 9600 baud callers from 6pm until 2am, you will need two events:

command: LogonBPS, args: 9600, type: System idle or not
time: 1800
valid: 800

command: LogonBPS, args: 0, type: System idle or not
time: 200
valid: 1600

Notice how the "valid" fields add to 2400 hours, and all times are taken into consideration.

Modems...

Each BBS port that has a modem (or null modem) attached to it must have a corresponding entry here in the modem configuration screen. Fields on this screen control how a serial device is opened, which baud is used to communicate with it, and many other options and parameters.

First, CNet is designed to use Hayes compatible, or nearly Hayes compatible modems. Modems that use "AT" commands like "ATD" and "ATA" are generally "compatible enough" to work with CNet. Also, CNet is designed to use "7-wire" serial cables, containing pins for carrier detect, DTR, and RTS/CTS. CNet will be unable to properly function with a cable of lesser capability. In general, most modems and cables that you will find are suitable for the task, but occasionally you will find equipment that is not up-to-par for a BBS environment.

CNet needs the modem to supply a carrier detection (CD) signal. This signal is used to determine when a connection is established and when it is broken. Without this signal, CNet will be unable to "clear the line" or hang up properly when a user drops the connection. Some older modems have a DIP switch to enable or disable carrier detection.

Most newer modems use a software command "AT&C1" to enable CD. In the latter case, you can add "&C1" to the modem's second initialization string (described later).

CNet needs the modem to hang-up and go off-line when the DTR line is dropped. This will enable CNet to quickly hang-up and reset between callers. Some older modems have a dip switch to enable this function. Most newer modems use a software command "AT&D2" to enable DTR hang-up. In the latter case, you can add "&D2" to the modem's second initialization string (described later).

For high speed modems (9600 and higher), CNet needs the modem to operate using RTS/CTS handshaking. For USRobotics (and many other) modems, this is turned on using the "AT&B1" and "AT&H1" commands (or adding "&B1&H1" to your second initialization string). You should consult your modem's manual for exact commands specific to your modem.

CNet needs the modem to NOT be in auto-answer mode. Some older modems have a dipswitch for this. Most newer modems use the command "ATS0=0" to turn off auto-answer. In the latter case, you can add "S0=0" to the modem's second initialization string. If the "AA" light is OFF when the BBS is waiting for a call, you have correctly configured this mode.

CNet needs the modem to use VERBOSE result codes. The modem command to accomplish this is "ATV1." This is the default on all current modems, so you should really not have to consider this unless you are seeing numeric codes like "0" instead of "OK."

Optionally, instead of adding modem commands to the initialization strings, most newer modems have "nonvolatile memory" (or NRAM) which can be used to store configurations. Use a terminal program to type the configuration commands you desire, then use AT&W to write the configuration to memory. After that point, ATZ will restore your "saved" configuration instead of defaulting to factory settings.

Newer and more powerful modems have dozens more

configuration options. In general, the "factory" settings for these options will be satisfactory. However, if you would like more information, or if you are unconfident about configuring your modem(s), there are several example configuration files on the CNet distribution disks to help you along.

The fields you see on the "modems..." screen are as follows:

Device and unit: these correspond to the specific serial port type and driver that you are using. The Commodore 7 port A2232 card uses "serial.device" and unit numbers 2 through 8. The built-in serial port is "serial.device" unit 0. Consult your card's manufacturer or technical documentation for details.

Idle baud: the baud rate that will be used for communication with the modem when the port is "idle." Generally, this is the highest baud rate the modem can support. Because of Amiga hardware limitations, it is recommended that you not exceed 19200. Settings higher than 19200 may result in higher than normal "garbage" during file transfers, especially in the case of a multi-line BBS.

ESC code (escape code): if your modem will not properly support the DTR-drop capability mentioned above (that is, the BBS appears unable to hang-up on a user), you need to use the "ESC code" method of hanging-up. By default, a modem's escape code is 43 (the "+" sign). You probably already know that while your modem is connected to a BBS in terminal mode, you can press "+" three times, then ATH to hang up. By setting the "ESC code" to 43, CNet will do the same thing. Often, however, you will want to prevent users from hanging themselves up (and sometimes crashing the BBS at the same time depending on the modem type) by pressing "+" three times while at an input prompt. To get around this, set the ESC code to something "untypable" like a 30 or 31. When you do this, you need a corresponding "S2=30" or "S2=31" in your "init #2" string. CNet will use DTR-drop hang-ups when the "ESC code" is set to 0.

Shared: set this flag if another program must share this port's serial device at the same time. If you use TrapDoor

for this port, but are NOT using "trapwake" (described elsewhere) you will need to place a checkmark in this box.

Locked: place a checkmark in this box if you wish to use RTS/CTS flow control on this port. For high speed modems, you usually DO want to use RTS/CTS flow control. When "locking" the baud rate, you will want to set the "idle baud" at the HIGHEST rate your modem will support. Most 9600 and 14400 baud modems use a locked baud rate of 19200.

8none1 / 7even1: the serial port's parity checking and word size. The "de facto" standard in BBS communications is 8none1. The 7even1 option is provided for those areas of the world which continue to use the older protocol.

Init #1: CNet will send two initialization strings to your modem when the port is first opened, and again after each caller logs off. The first initialization string generally contains "ATZ" which is the command to "reset" the modem to the saved defaults.

Init #2: this string is sent immediately after #1, and generally contains commands which change the modem's configuration. You should be especially sure to include commands which "undo" what is done by "off hook," "terminal," and "termlink."

Hang-up: this string is sent to the modem after the "ESC codes" if you are not using DTR hang-ups. All Hayes compatible modems should use "ATH."

Dial-out: "ATD" is the modem command to dial out. Change this to "ATDP" if your line is pulse. This string is used for auto-call back validation.

Null modem: by directly connecting the serial port to another computer's serial port running a terminal program, you can create additional "local ports" for your BBS. Place terminals all over your house for family and friends to enjoy! (or create a serious office Local Area Network). With this box checkmarked, you can press ENTER twice to logon to the BBS from the terminal.

Answer string: "ATA" for Hayes compatible modems. This is the string CNet sends to the modem after detecting a "RING." REMINDER: the modem should NOT be in "auto-answer" mode!

Off hook: this string is sent to the modem when you are logging in to the port on your local console. This gives callers the illusion that the phone line is "busy." Normally, for local console logons, you will use a local port (one without a modem), generally port 0.

Terminal: the string to be sent to the modem as you enter terminal mode. This can be used to turn the modem speaker on, reset the ESC code, etc.

Term link: the string to be sent to the modem just before the port is used for dialing out by the "TERM" command (see the inter user communications chapter). Usually similar to "terminal" except you would not want to enable to modem's speaker.

Ans. timeout: the number of seconds that the BBS should wait after issuing the "ATA." Modems either default to 30 or 60. For high speed modems, connections can take a little bit longer as both sides "negotiate" a protocol, so 60 is recommended. In either case, this setting must match the modem's "S7" register. You can either use the ATS7=60 command before setting the NRAM (described above), or you can add "S7=60" to your "init #2" string.

Ans. pause: the amount of time (in TENTHS of a second) that the BBS should wait after receiving "RING" and before sending "ATA." One or two seconds (10-20) is an acceptable number, but you should set this value HIGHER if you are using caller-ID on the line. In this case, you should allow enough time for the phone to ring TWICE so that the caller-ID information has enough time to be transmitted. An acceptable value for caller-ID lines is probably 50-80.

RING key: the keyword that CNet will be watching for to determine that the phone is ringing.

CONNECT key: the keyword that CNet will be watching

for to determine that a connection has been made (after the modem has sent "RING", and CNet has replied "ATA").

CALLER ID key: the keyword what CNet will be watching for to determine the caller ID information. Supra modems use "NMBR =" (followed by the phone number that is calling). Check your modem's documentation for information.

Port password: you have the option of giving EACH PORT a unique password. In order to connect to this port, the user must enter its password. Leave the field BLANK to not use a port password.

To edit a port's modem's configuration, click on the port number in the list of ports window. To add a new port, click on "new." After entering all information, click on "add." To remove a modem, first click on the port number, and then click on "remove."

Fido-net...

CNet supports up to 12 Fido-net-type "domains" (otherwise known as networks). The original Fido-Net domain is called, oddly enough, "Fido-Net." Others now include CLink and Family Net, with the list constantly growing. To edit a Fido-Net domain, click on its name in the "Fido-Net" window. Here are descriptions of the fields you see on this screen:

A Fido-Net address has the format of ZONE:NET/NODE.POINT. Each domain uses a RANGE of ZONE numbers (a "First zone" and a "last zone.") CNet uses this range to accurately determine the domain and destination of netmail, when, for instance, a user enters something like "Mail Ken@1:2410/215." That destination is within the Fido-Net domain because the Fido-Net domain has a "First zone" of 1 and a "Last zone" of 6. When you get ready to connect your BBS to a network, you will be informed of the valid Zone range.

Fake/point-net: If you are a point you should get this from your boss. If you are a node, and wish to have points, you should select a number between 1 and 65534 which somehow corresponds to your net and node number (for

example, if your address is 1:24/267, an obvious fake/point-net number would be 24267). Because the original Fido-Net specification did not account for pointer, this number is required to help Fido-Net software to deal with points. For example, if you are point "2" and your boss's point-net is 24267, your "fake" address is "1:24267/1" and your boss's fake address is "1:24267/0." This keeps older Fido-Net mailer software happy. Your actual four-dimensional addresses are still 1:24/267.1 and 1:24/267.0, however.

Address (0): this is your actual assigned Fido-Net node number. If you are a point, use your boss's address here with your point number at the end. If you are a node, your point number is always 0. You must enter the full four-dimensional address here and in the next two fields. This is the address that will be used to export and toss messages.

First/second AKA (1): if you are a network, area, or hub coordinator, you may have other addresses associated with your BBS. These fields exist so that you make these known to CNet. Netmail addressed to your address or either of your AKA's will be correctly imported.

Echo origin: the default public message tag line. CNet will add this line (preceeded by " * Origin:") to every message that originates from your BBS. CNet will automatically add your BBS's Fido-Net address to the end of the line. From the subboard's EL screen, you can override this setting.

Netmail origin: normally, netmail messages do NOT contain origin lines. This field, however, allows you to disobey this convention on networks which allow it.

When editing an existing Fido-Net domain, the "areas...," "export-to...," and "mail routing..." buttons are active.

The "areas..." screen is used to specify the echomail subboards which you send and receive over the currently selected domain. Following are the fields you see here:

Areas: the name of the echomail area. This is the NETWORK name of the subboard. It is usually quite short,

and does not contain spaces. You obtain these names directly from the network or from your "feed" BBS. These names should match the "unique dirname" on the EL screens for those subboards used to contain these echomail areas. Click on the name of an area in this window to edit its fields.

Access level: each subboard has an access level. In order to "subscribe" to a subboard through the AreaFix utility, a node must have an access level equal to or higher than this value. Access levels for nodes are set from the "export-to..." screen.

Access flags: In order to "subscribe" to a subboard through the AreaFix utility, a node must have all of the access flags that are set for the subboard. Access flags for nodes are set from the "export-to..." screen. There are 8 access flags, numbered from 0 to 7. To "set" a flag, enter any letter or number in its place. To "reset" a flag, enter a "-" in its place.

Dupe table: the number of messages that CNet will "remember" when checking for duplicate incoming echomail messages for this subboard. To set the default value seen here, and for more information, see the "tosser..." section below.

Description: with the AreaFix utility, it is possible to request a list of the currently available echomail areas. Along with the short area name, CNet will provide the text that appears in this field to better describe what the area might contain.

Export-to: a list of the BBS's which have been entered via the "export-to..." screen. BBS's which will send and receive this echo with your BBS are marked with a "+." To toggle the "+" on and off, click on the BBS's address in the "export-to" window.

The "export-to..." screen allows you to enter the addresses of the systems with which you will participate in the exchange of echomail in the currently selected Fido-Net domain. Following are descriptions of the fields you will see here:

Export-to: the list of systems with which you will transfer echomail. Each address is a four-dimensional address. To edit the information for a system on the list, click on its address in the export-to window.

Archiver: the method that will be used to pack message packets destined for the export-to system. CONFIG will compose a list consisting of the archivers listed in the "archivers..." CONFIG screen for which a "pack" format was specified. "ARC" is perhaps the most widely used Fido-Net packer.

Mail type: this determines the "flavor" of echomail packets that Toss will create. "Normal" should be used for most purposes. Use "crash" to create packets that your mailer will mail immediately, instead of waiting for the network mail hour. NOTE that your mailer will only see "crash" packets if you run the mailer periodically throughout the day, perhaps on a BBS event. Use "hold" to create packets that will only be sent if the "export-to" system calls YOU.

Dimension: set this to 4D if you know that the export-to BBS uses four dimensional capable tosser software, incorporating the version 2+ Fido packet header structures (like CNet's Toss does). Set this to 2D if you are at all unsure.

Access level: in order to "attach" itself to an echomail area, the export-to's access level must be equal to or higher than the echomail area's access level.

Access flags: in order to "attach" itself to an echomail area, the export-to must have at least the access flags (and possibly others) that the echomail area does. There are eight flags, numbered from 0 to 7. To "set" any flag, enter any number or letter at its position. To "reset" any flag, enter a "-" at its position.

AF password: the password which the export-to must use when using the AreaFix utility. See a description of the AreaFix utility and the placement of the password in the "Tosser" chapter.

Areas: the list of echomail areas configured from the "areas..." screen for the current domain. Subboards which will exported to and imported from the current export-to will be marked with a "+." To toggle the "+" on or off, click on the subboard name in the "areas" window.

Often, netmail is not sent to its final destination right away. It is often "routed" to save phone charges. The "mail routing..." screen allows you to specify "rules" for the routing of mail. If you are a point, you will want to route ALL netmail to your boss. Here's what you will see on this screen:

Route mail: a list of addresses to which mail can be sent using the BBS "mail" command. There is one wildcard "*" allowed here, which can be used in place of any one or any combination of the zone, net, node, or point components of an address. The "route mail" patterns should be listed in order of increasing generality, from most specific to most general. The LAST entry should ALWAYS be "*:*/*.*" so that ALL netmail will matched by this list. When sending mail, CNet begins at the top of the list comparing the send-to address to each entry on the list until a match is found.

Route-to: the address to which the mail will be routed. The "*" wildcard is also allowed here, and will be replaced by the corresponding number the user specified when sending the mail. For example, routing mail addressed as "1:*/*.*" to "1:*/0.0" means to send all mail in zone "1" directly to the net coordinator of the net given by the original address.

Mail type: the "flavor" of the mail packets created. In most cases, "normal" is used. If you want your mail packets to be sent immediately (as soon as your mailer runs, instead of at the netmail hour), set this to "crash." If you want your mailer to wait until the system calls YOU to PICK-UP the mail packets, set this field to "hold."

To add a new route pattern to the END of the list, click on "new." Enter the "mail route" and "route-to" and then click on "add." To add a new route pattern anywhere else in the list, first click on the route pattern whose position you

would like to assume. Next, click on "insert." After entering the "mail route" and "route-to," click on "add." The new route pattern will be inserted immediately before the route you first clicked on.

To remove a route, first click on the route, and then click on "remove."

Logs...

CNet is able to add occurrences of specific events to the caller log. In addition to being listed in the caller log, it is also possible to give a specific event its own separate log. It is possible to log specific events only for specific users. Following are descriptions of the fields you see on this screen:

Log ID: a unique number. There is a set of logs pre-configured into CNet. Each log has its unique number. CNet uses the Log ID number to locate specific logs. You should not change, remove, or re-use the Log ID number of an existing CNet log.

Optional log name: If this field is used, CNet will create a file by the same name in "sysdata:log" containing only entries for this log. You must handle the reading and deletion of these logs yourself. The only exception are "dloads" and "uploads" which are read and reset by the "LU" command.

User log flag: the value of this field determines for which users this log is active. It may be set to a number from 0 to 31, representing one of the 32 possible "log verbosity flags" that each user has in his account. The event will be logged if the user has this flag number in his "log verbosity flags" field. For example, if the user log flag for feedback is 1, the event will be logged for a user with a log verbosity flags of "0-5,10" but will not be logged for a user with a log verbosity flags of "0,9-17."

Log only when remote: you may wish to log maintenance-type events like KillPost, ForwdMail, etc., but only if performed from REMOTE. Select this option to skip the logging of the event when it occurs from local mode.

The majority of the log types are self explanatory from their 8 or 9 letter description. Here are some additional descriptions:

Editmess:	the subboard ED command.
EditMail:	the MV command from Main.
ForwdMail:	the FOR command from the mail-read prompt.
KillMail:	the MV command from Main.
NewBBS:	an addition to the BBSList.
NewChoice:	a choice added to an existing Vote topic.
NewVote:	a new vote topic.
Vote:	a vote cast.
KillBBS:	a removal from the BBSList.
EditVote:	a vote topic altered.
KillVote:	a vote topic removed.
NetMail:	Fido-Net mail.
AddSubb:	the AL subboard command.
Adopt:	the AO subboard command.
CallLog:	the LC command.
Dump:	the DUMP command.
EditAcct:	The EA command.
EditAttr:	the subboard AT command.
EditFile:	the WF command.
Edit Group:	the EG command.
EditSubb:	the subboard EL command.
EntryFile:	the subboard EN command.
ExitFile:	the subboard X command.
FbackRead:	the VF command.
KillItem:	the subboard K command.
KillResp:	from the subboard ED or end-of-post K command.
KillSubb:	the subboard KL command.
KillUser:	from the EA command.
MaintLog:	the LA command.
MoveItem:	the subboard ML command.
NuserRead:	the VN command.
ReadFile:	the RF command.
TestFile:	the subboard TEST command.
Transform:	the subboard TRANSFORM command.
Validate:	The subboard V command.
XferLog:	the LU command.
ChatReq:	the C command.

EditFing:	The EF command.
EditPref:	the EP command.
EditTerm:	the ET command.
EditUser:	the EU command.
Finger:	the FI command.
Identify:	the ID command.
OLM:	the OLM command.
Password:	the PW command.
YankStart:	the Yank command.
ArexxSays:	the Arexx LOG command.
MCI_Says:	the MCI & command.
NewName:	the EU command when used to change Handle.
FullMaint:	when ID is used to gain full maintenance.
BBSLIST:	the L command from Main.
CC:	the CC command.
Join:	the J command from Main.
Monitor:	The MON command from Main.
TermLink:	The TERM command from Main.
RunPFile:	when a pfile is run.
ReadNews:	when a news area gfile is read.
Shell:	the S command from Main.
ReadGFile:	when a gfile is read.

To edit a log procedure, click on the log name in the list of logs window. Use the mouse to click into the fields you wish to edit. To add a new log for use from a CNet C pfile, click on "new." After entering all appropriate information, click on "add." Remember not to use the name or Log ID of an existing CNet log. To remove a log, first click on the name of the log in the list of logs windows. Then, click on "remove." Remember not to remove any of the default CNet system logs.

Tosser...

CNet's "tosser" is responsible for packing Fido-Net messages into bundles ready to be transported over the network. It is also responsible for unpacking incoming bundles and distributing the messages to the appropriate subboards and mailboxes. See the tosser chapter for more information. The options and fields on this screen are used to control the tosser's operation. These options and fields are as follows:

Input buffer: This determines the amount of memory (in BYTES) to use for reading from the ".PKT" files. The higher this value, the less often Toss will have to read from the disk, making its operation more efficient. 100,000 is a reasonable setting. Try something higher if you have memory to spare.

Output buffer: This determines the amount of memory (in BYTES) to allocate for EACH of your export-to nodes during a toss. 50,000 is a reasonable value. Try something higher if you have the extra memory.

Default dupe table size (in number of messages): Toss is able to remember messages that it has seen. It does this by making a table of the origin addresses and MSGID serial numbers as it tosses them. You can make this table as large as you want, but remember that memory will be allocated for EACH area that you export-to during a toss. Set this to 0 to disable the feature. To have this feature work, you must insure that there is a directory "mail:dupetables/" on your hard drive. This is where the actual "dupe-data" will be stored. This is a DEFAULT setting. From the "subboards..." screen, you can change the dupe-table size on a per-subboard basis.

Send echomail from "unknown" systems to "bad": If Toss detects incoming echo-mail from a BBS which is not configured to receive the area (as configured in the "export-to..." screen), this option will cause those messages to be sent to the BAD MESSAGES area. This option provides some security against messages arriving into a subboard from a BBS with which that subboard is not configured to communicate with. If unselected, echomail from "unknown" systems is imported.

Trapdoor front-end version 1.74 or higher: If you select this option, Toss will use full "four-dimensional" filenames (like 1.255.2410.0.OUT). Without this option, Toss will generate the MS-DOS type HEX filenames (like 0000001F.OUT). The four-dimensional filenames are more efficient and less ambiguous, but the option for hex filenames is provided for compatibility.

Send "dupe" echomail to "bad": This option tells Toss

what to do with "dupe" echomail, as determined by the dupe-table (described above). If selected, all "dupe" echomail will be routed to the BAD MESSAGES area. If unselected, all "dupe" messages will simply be "skipped" (that is, LOST).

Show kludges in imported messages: Normally, the control sequence lines that Toss and other networking software use to route messages are stripped from messages as they are imported. If you really WANT to see these lines in your message bases, select this option. Changing this option will not affect messages that have already been imported.

Without point-net, use 3D address in paths: If you are a point, and your boss does not have a pointnet established, this option tells Toss to add your point number to PATH statements on messages that you export. You should ask your boss whether or not he wants to see this happen.

Xfido/Ifido start messages with 2.msg: This option is included really for sysops NOT using the CNet Tosser, but instead some other third party software. If this option is selected, the "1.msg" files will not be used by Xfido and Ifido. If this option is unselected, the "1.msg" files will be used as normal messages. You should select this option if you are using TrapToss, but leave it unselected if you are using Foozle.

CHAPTER 5 - Logon procedures

There are three ways to enter the BBS--local mode, remote dial in, and null modem.

Local mode is use of the BBS "locally" (as opposed to remotely), from the system "console." Although sysops usually reserve one modemless port for local mode use, you can enter local mode on any running port, regardless of whether or not there is a modem attached. If there is a modem attached, CNet will send it the "off-hook" command sequence (definable from the CONFIG "modems..." screen) to make it appear "busy" to your callers. To enter local mode, open the port's screen, and press the SPACE BAR. To enter local mode and immediately logon as account number one, press the TAB key instead. You may only use this "AutoLogon" feature if the control panel is not "locked." If you prefer, Logon and AutoLogon are commands from the first pull-down menu.

When your modem sends a "result code" to your computer, CNet will display this result code verbatim in the control panel, and at the bottom of the port's status window (if the port's screen is open). This lets you know what your modem is "saying" at all times. CNet makes use of several fields on the CONFIG "modems..." screens to interpret these codes. Most important are the "ring" and "connect" keywords--CNet uses this information to determine when to respond with "ATA" (to tell the modem to answer) and when a connection has been established. Once a connection has been established, CNet uses the carrier detect signal from the modem to determine when the connection has been lost.

Modem Answer Problems

If CNet appears to answer the phone, and then hang-up before the user fully connects, this could be the result of one of several problems: Your modem should NOT be in auto-answer mode to work with CNet. Check by looking at the "AA" light on your modem if it has one--it should NOT be on when the modem is waiting for a call. Some primitive modems do not support carrier detect (CD) indication. Your modem must have that basic feature to work with CNet. Also make certain that your modem cable

uses at least a full "7-wire" setup. If you have a "CD" light on your modem, it should be OFF when CNet is waiting for a call, and come ON once there is a connection. You may need to increase the amount of time your modem allows to complete a connection. High speed modems often require a full 60 seconds connect properly. Changing the connection time is covered in the "modems.." section in the chapter about the configuration editor. Finally, it could just be line noise. Some high speed modems are so particular that they will simply "hang-up" if they detect even the slightest noise problem.

Null Modem Setup

One final way to connect to the BBS is through a "null modem" connection. A null modem connection consists of a null modem CABLE (a specially cross wired serial cable), connected directly from a serial port on the BBS computer to the serial port of another stand-alone PC or terminal. The null modem port is configured from the CONFIG "modems..." screen just like other ports, except that you should check mark the "null modem" option. Null modem connections can operate at the maximum serial speed possible between the two computers. From the null modem terminal, press the ENTER key TWICE consecutively (and quickly) to enter the BBS.

The logon prompts

After connecting, CNet displays a version number and copyright message. Under NO circumstances are you allowed to change this information.

The first prompt to appear is one asking the terminal type. Knowing this right away allows CNet to display the opening screen (sys.start) according to the user's choice of terminal type (if you have created separate screens). The choice that the user makes here will be used for the call. The user can use the ET command to change the terminal type once he's logged on.

If the user presses ENTER at this prompt, CNet will assume an ASCII (dumb) terminal type. If the user selected an actual terminal type on his last call, CNet will prompt the user with "use previous term settings?" before settling for ASCII.

The next prompt is "Enter NEW if you have no account. Enter your handle." You may actually enter your handle, your real name, or your account number at this prompt. Your real name can only be used for logon if you have chosen it not be private. If you enter an incorrect name, CNet will allow you to "search" the user list if the CONFIG flag "allow who/user search at logon" is selected. If CNet is UNABLE to find your name or handle from this prompt, changes are that your "sysdata:pointers" file has become corrupt. Logon using your account number and then run the maintenance program "pointers" to correct the problem.

Enter "NEW" at this prompt to run the new user logon procedure (see the next section). You will have to do this in order to install yourself as "user #1" on your BBS before you open it up to remote callers.

Enter "WHO" at this prompt to list the system's current users. This command is only available if the CONFIG flag "allow who/user search at logon" is selected.

The new user procedures

The new user procedure begins with terminal configuration questions (computer type, line feeds, screen size, etc.). Next, personal data questions will be asked--country, address, handle, real name, etc. If a user enters a banned phone number (one appearing in the "badnumbers" list) he is immediately disconnected at this time. Next, a couple of select user preferences will be queried, such as "more?" mode and time zone offset. Finally, the new user and sysop questionnaire questions will be asked. All of the configuration and preference settings are described in the "preferences" chapter. Modification of the new user questionnaire files is discussed in the "modifications" chapter.

CNet checks for duplicate handles, real names, and handles and real names that match the "badnames" file at the END of the new user procedure. If "avalid files" exist, CNet then offers auto-call-back validation (see the next section).

Auto-call-back at logon and Auto-call-back validation

Auto-call-back validation allows you to have CNet automatically validate new users (give them an access group of 1). If CNet is able to call the user back at his data phone number, make a connection, and then authenticate the user's identity, he can be considered "validated." This saves you the time of having to manually "voice validate" users by calling them back yourself. Auto-call-back validation is activated simply by creating "avalid files" (lists of local phone number prefixes) as described shortly.

Auto-call-back validation is offered to a new user after he completes the new user procedure. If for some reason the auto-call-back was unsuccessful or skipped, the user has the option to try again by using the "X" command from the Main prompt. Both successful and unsuccessful auto-call-back's are noted in the call log.

Auto-call-back at logon can be either a security feature, or a user convenience. When auto-call-back at logon is enabled, CNet will attempt to hang-up and RETURN the phone call as soon as the user completes the logon. Auto-call-back at logon is enabled with a privilege flag in the user account called "AutoCallBack @Logon." If you set this flag to "Opt," CNet will ASK the user if he would like the call returned. If you set this flag to "Yes," CNet will FORCE the call to be returned.

By default, auto-call-back at logon will only return phone calls that are "local" as determined by your "avalid files." By using a BBS event, you can change the operation of auto-call-back at logon. The event command is "callback." An argument of "0" will disable auto-call-back at logon. An argument of "1" will enable it to dial ALL numbers, EVEN LONG DISTANCE NUMBERS. An argument of "2" will enable only "avalid" numbers (this is the default).

Creating "avalid" Files

An auto-call-back configuration file ("avalid file") is used to tell CNet which numbers it may dial, and how to dial them. Typically, you configure this file to tell CNet which numbers are local (AKA, FREE) for you to call. In some

areas near area code borders, it is necessary to dial the area code, even though the number is a local phone call. This is taken into account in an avalid file. Each line of an avalid file has the following format:

AREACODE DIALCODES EXCHANGES

The AREACODE is the "long distance" part of a phone number (in CNet, the digits to the left of the hyphen). The DIALCODES are the extra digits necessary to actually dial the number (like a "1" or a "1" and the area code). The EXCHANGES is a RANGE of valid local phone number exchanges (usually the first three digits of the "local" part of the phone number). For example, if my phone number were 313-4531000, and all 313-453, 313-454, and 313-455 numbers were local calls by simply dialing the last 7 digits, I would add the following line to my avalid file:

313 - 453-455

NOTE when there are no DIALCODES, as in this example, it is necessary to place a hyphen ("-") in that field. If I lived in an area where it was local to call another area code, and the phone company required that I dial 1 and the area code, I could have entered a line like this:

616 1616 255-256

The auto-call-back routines will work with numbers of any length. This means that the auto-call-back routines should work in any country. The following might be a legal entry in a small European country with phone numbers like "4245-662331."

4245 04245 66-67

The auto-call-back routines will work with very SPECIFIC numbers. If, for example, my number is 313-4531000, and I would like to auto-call-back just ONE PERSON in Florida, the following line would work:

813 1813 5551212

Your phone service may change the definition of a "local" call depending on the time of day. You might also have different exchanges on your phone lines, allowing different local calling areas. To take advantage of these

circumstances, CNet allows different auto-call-back ("avalid") configuration files at different times of the day and on different ports. When CNet searches for an avalid file, it searches in the following order (and stops when it finds one):

systext:avalidX.Y
systext:avalidX
systext:avalid.Y
systext:avalid

X is the "avalid number." The avalid number is by default "0." You can use a BBS event to set the avalid number depending on the time of day. Set the event command to "avalid" and the arguments to the avalid number. Y is the current port number.

Caller ID

CallerID gives you a way to digitally determine the phone number of the person calling you. In order for it be useful on a BBS, you must have a modem which can read it from the phone line. You must also order the service from your local phone company.

The CallerID information is transmitted over the phone line between the 1st and 2nd ring. In order to allow your modem enough time to "see" this information, you must lengthen the time between "ring" and "answer"--the default setting of 12 (2.4 seconds) is too short. From the CONFIG "modems..." screen, select a port, and then set the "answer pause" field to 30-35 (6-7 seconds).

On the same CONFIG screen, the "caller-id key" should be set according to what your modem transmits just before sending the phone number. The default setting of "NMBR =" will work with Supra FaxModems with CallerID chips.

With this level of configuration, CNet will report the CallerID phone number in the call log, and will list account numbers which have a matching data phone number. If there are more than 7 matches, the list will end with "...."

Each access group and user account has a variable which describes HOW the CallerID information will be used. Its

possible values are:

No action
Just log it--user never knows it's there.

Copy to data#
The CallerID phone number will be copied to the user's account each time he calls. This allows you simply to keep track of where the user is calling from.

Must exist
If a user calls without CNet receiving a CallerID phone# from the modem, he will be disconnected. No "private" calls will be allowed.

Must exist/copy
A combination of the two functions above.

#'s must match
If the user's Data phone number in the BBS records does not match the callerID#, he will be disconnected.

If the CallerID variable for access group 0 is set to anything other than "No action", new users will not be able to type in their own data numbers--they will be copied from the CallerID information automatically.

Each user account has a flag called "Phone Verification", accessible from the EA screen. It allows you to keep track of whether or not a user's phone number has been validated. Its possible values are:

UNV Unvalidated

ACB1 Auto-call back was once successful at data#, but caller-id has since reported another number.
ACB Auto-call back was successful at data#

CID1 Caller-ID # once matched the data#, but the user has since called from another number.
CID Caller-ID # MATCHES the user's data#

SYS Sysop validated (by voice or however). This will be overridden by caller-id or auto-call back operations.

System-wide CallerID Setup Options

Several CallerID options exist from the CONFIG "options..." screen:

If "validate new users with CallerID" is selected, new users will automatically be given access group 1 if CallerID information was available to supply their data phone numbers.

If "skip handle prompt with CallerID" is selected, CNet will skip directly to the "enter your password" prompt when the user calls. If more than one user shares the same data phone number, CNet will search for an account in that group with a matching password. If you press ENTER at the password prompt, you will still be able to logon by handle.

If "don't answer without CallerID match" is selected, CNet will not even pick up the phone unless there is a user with a data phone number that matches the one that is calling. Use this option for a VERY private BBS.

CHAPTER 6 - The BBS User Interface

CNet command and subsystem structure --an overview

CNet uses a parsed-input free-form command prompt structure. Unlike some other BBSs which use only simple one-key ("hot-key") commands, CNet allows very expressive (and powerful!) commands. For example "read global new tome since 1-7-93 until 7-7-93" is a valid subboard command. To make things easier to remember and type, CNet does support command aliasing. In the previous example, "RA" could have been used in place of "read global new." For more information about the formulation of commands and command aliases, see the "BBS modifications" chapter.

Because CNet parses input, there may be occasion to add quotation marks around arguments with spaces (such as handles and names). For most commands that operate on names and handles, that handle or name is the ONLY argument they take, however, so CNet will automatically "add" the words together. For example:

read mess by "tom sawyer"

requires quotations around tom sawyer, but

mail ken pletzer
or mail "ken pletzer"

will both work.

Most commands have "verbose" and "abbreviated" versions. You may use "Edit Preferences," "E P," (E space P) or "EP" to accomplish the same thing. View the contents of the "cnet:bbsmenu" text file to see CNet's full command structure. Adding or changing items in that file modifies the commands available to users on the BBS.

CNet consists of a "Main" level, and a series of other "command prompts." The Main level is the central point in the BBS from which the other areas are reached. Upon "Quitting" from a command prompt, you are eventually returned to the Main level. "Quitting" from the Main level is equivalent to logging off.

Commands available at all command prompts

There exists a set of commands which is available from every command prompt. Unlike some other BBS's, CNet offers these commands "everywhere" to provide a consistent and predictable user interface. These commands are as follows (many of them are more fully described elsewhere):

? : This is by far THE most important command on a CNet BBS. The question mark provides a summary of commands each with one line descriptions. All menus are found in the directory systext:menu.

ACcount: Account balance information. Provides a summary for the accounting system activity for the current call. Also displays balance and "minimum allowed balance." See the "accounting..." section of the CONFIG chapter for more information.

AG: Activity Graph. Display the graph of system activity (percent) versus time of day. This is the same graph displayed and reset from the control panel.

CC: Chat call. Ask a user on another port to chat. See the "inter-user communication" chapter for more information.

Chat: Ask the sysop to chat. If the user privilege flag "sysop chat" is set to "Def," you may "ring" the sysop if the control panel's pull down menu option "sysop is in" is check-marked. This privilege flag may also be set to "No" or "Yes" to disable or enable ringing of the sysop at all times regardless of the pull down menu's setting.

CRedits: Display your file transfer credit information. This includes daily totals, overall totals, and credit balances. If you are in a subboard, the default file and byte ratios for the subboard are displayed.

DS: Download selected. Displays a list like "SS." An option is given to TEMPORARILY remove files from the list. Files that you remove from the select list at this prompt will be REPLACED once the download is

complete. This gives you the option of PARTIALLY downloading your list of selected files.

EA: Each account(s) (sysop). See the "user and access group" chapter for more information.

EF: Edit finger files. Use this command to change your responses to the new user questions. Other users can view your finger files using the "FINGER" command.

EG: Edit access group(s) (sysop). See the "User and access group" chapter for more information.

EP: Edit preferences. Macros, signatures, More?, user dictionary, network aliases, help level, etc.

ET: Edit terminal preferences. Screen size, ANSI emulation, graphics set, etc.

EU: Edit user information. Handle, name, address, street, birthday, gender, etc.

Feedback: Send a message to the sysop's feedback mailbox. Sysops use "VF" to read from the feedback mailbox. An option on the CONFIG "options..." screen may be used to re-direct feedback to the sysop's mailbox (account #1).

FIND: Find a file anywhere on the BBS. This command searches your subboards for files matching the pattern you specify. You may specify wildcards like #, ?, *, etc. If you do not specify wildcards, "*" is added to beginning and end of your search-text. FIND will only find files if the search-text is found in the first 9 characters of the filename. The "Browse" function is used to display, read, download, etc., found files. See the subboard chapter for more information.

FReq: File request. With the appropriate privilege flag, you may use this command create or add to the ".REQ" files that mailers like TrapDoor use to request files from remote systems. The command takes a Fido-Net address as its argument.

Help: CNet's HELP utility. Provided so that you may receive more detailed online information about specific commands and features. Reads files from the systext:help directory.

HIde: Remove yourself from the "WHO" display so that other users can not see you. See the "inter-user communication" chapter for more information.

ID: Remote system operators must use this command before they will be given system operator privileges. The password for the ID commands is set using the Shell "Setpass" program.

INFO: Displays the file "systext:sys.info." You may edit this file to describe your systems hardware and software configuration. Other pertinent BBS information may also be kept here.

LA: Log of automaintenance. When users or files are deleted by automaintenance, a note is made in this log. Option is given to restart this log.

LC: Log of calls. Records log ons, log offs, and lots of other information about user activities while online. See the "logs..." screen in the CONFIG chapter for more information.

LU: Log of uploads and downloads. Actually two logs read one after the other.

Mail: Send mail to another user. Also "MS" for mail send. See the "mail" chapter for more information.

MM: Multi-mail. Send "bulk" and "party" mail. See the "mail" chapter for more information.

MR: Read your mailbox. See the "mail" chapter for more information.

MUffle: Prevent users on other ports from sending OLM's to you. See the "inter-user communication" chapter for more information.

NF: New files scan. Search the subboards for new file

uploads since your last call. See the subboard chapter for more information.

NM: New messages scan. Search the subboards for new messages posted since your last call. See the subboard chapter for more information.

NSAL: New scan at logon. A combination of the NF and NM commands. See the subboard chapter for more information.

NU: Read the new user message "systext:sys.nuser." This file often contains the "rules of the BBS". It is displayed to new users before they first log on. You should edit this file to express the rules, content, and special character of your BBS.

OLM: Send a message to a user on another port. See the "inter-user communication" chapter for more information.

PW: Change your password. You should change your password at least once every six months. Users with high access should change passwords more often. Users must be cautioned to NEVER use the same password on any other BBS.

QWK: Upload a QWK reply packet. A QWK reply subboard must exist somewhere on the BBS. See the subboard chapter for more information.

RM: Read marked messages. Messages are "marked" using the text search subboard commands (Z and ZG) when you opt to "use a background task."

SS: Scan selected. Display a list of the files that you have selected for downloading. A summary of credit information and estimated time is provided. An option is given to remove items from the list.

STatus: A quick display of the most important account information. Displays your access, your address, important system dates, and other information.

Time: A simple display of how long you have been online and how long you have left.

WHO: Display a list of ports and who is online. See the "inter-user communication" chapter for more information.

UM: User monitor. Receive OLM's when other users log on and log off. See the "inter-user communication" chapter for more information.

WHY: Display the "reason" that your last file transfer was unsuccessful.

***C:** Clear your selection buffer. All files that you selecting using the "*" command will be removed. Your private "yank" files will be deleted.

The "Main" command level

The "Main" prompt is the command prompt at which the user is placed after successfully logging in to the BBS. The Main command level can be thought of as a "central" point--a "hub" connecting the various parts of the BBS. Following are the commands available to you to transport yourself to these other locations:

Base: CNet's message base. The actual "Bulletin Board" part of the system, where text messages are posted and replied to. See the subboard chapter for more information.

Gfiles: General text files base. See the gfiles/pfiles chapter for more information.

Join: Enter the join tele-conference. See the inter-user communications chapter for more information.

List: The BBSList feature. With easy to use prompts and menus, CNet is able to store tens of thousands of BBS listings in a quickly accessed B-tree structure (thats programmer's lingo for "fast"). Full support is in place for international numbers. Listings are automatically removed after a number of days specified by your setting on the CONFIG "limits..." screen.

MOnitor: Monitor the activity of users on other ports. See the inter-user communcations chapter for more information.

MV: Mail verify. Edit or kill mail once you've already sent it.

News: The news files base. Similar to a gfiles base, but new items are automatically displayed to users at logon. See the gfiles/pfiles chapter for more information.

Off: Leave the system. Some other BBSs like to call this very important command "Bye" or "Logout." The "Off" command is also available from MOST other command prompts.

Pfiles: The program files base. This is where external games, utilities, and "door" files can be made available to your users. See the gfiles/pfiles chapter for more information.

Relogon: Logoff and be immediately taken to the logon prompt. This allows users running low on time to start another call without risking losing the modem to another caller. Only users with the "relogon" privilege flag set in their accounts may do this.

Shell: The online shell for system operators. An actual AmigaDOS command shell is opened for online use! Requires a password as set using the "Setpass" program. Access to the online shell should be reserved only for yourself, or for highly trusted co-sysops who FULLY understand the shell commands. CNet uses Matt Dillon's "FIFO" programs to accomplish the magic of the online shell. CNet will read from a "shell-startup" file in the S: directory to set up the shell environment. You may set up a special startup file by editing your BBSTEXT file to change the name of the file CNet will look for. This file should contain the "NOREQ" command to prevent AmigaDOS from throwing up "requestors" which require a local mouse click to handle. You may wish to add other commands to this file (like alias and path). One example would be to use ALIAS to set "Q" equal to "ENDCLI." See your AmigaDOS manual for more info about fun with those commands.

TErm: Terminal mode. Authorized users can "dial out" on free ports. See the inter-user communications chapter for more information.

UL: User list. A program to list or search the user base. You can search for specific handles, names, access groups, phone numbers, or countries. You can order the output by ID number, handle, or phone number.

Uploads: CNet's file transfer base. See the subboard chapter for more information.

Vote: CNet's voting booth. With easy to use prompts and menus, CNet is able to hold "topics" to be voted upon. Users with the appropriate privilege flags can add topics, add additional choices to existing topics, or kill/edit topics.

X: Auto-call back validation. If for some reason the auto-call back failed during the new user procedure, this command is in place to re-enact that event.

The input prompt

The only "control" key you ever really need to use to enter a command is the ENTER key, and maybe the BACKSPACE key to correct your mistakes. Many other control key commands are available, however, for the advanced "power" user. They are (^ just means to hold down the control key):

^B: Beginning. Return cursor to the start of the line.

^E: User defined macro #1 (use EP command to edit).

^F: User defined macro #2 (use EP to edit).

^K: Kill. Delete everything under and to the right of the cursor.

^N: End. Bring cursor to the end of the line.

^R: Move to the next word. Equivalent to using ^U until you reach a space.

^T: Move to the previous character. ANSI terminal users may use the left-arrow key.

^U: Restore the next character. ANSI terminal users may use the right-arrow key.

^V: Verify. Re-display the prompt and input line.

^W: Move to the previous word. Equivalent to using ^T until you reach a space.

^X: Cancel the input line and begin again.

When using an ANSI terminal, the cursor can be moved anywhere in the input line to do inserting and deleting. When ENTER is pressed, however, everything under and to the right of the cursor is lost.

When using an ANSI terminal, the up and down arrow keys may be used to access a command history of the last 10 commands entered.

Whenever you are given an input prompt already containing text, that text will be "highlighted" (dark on light). To replace that text with any other text, just begin typing. To add to (or modify) the text you see, press the space bar, left arrow key, or backspace key. To complete remove the text, press the DEL key.

Ranges of numbers

Many commands operate on a RANGE of items. Many data fields take a RANGE of numbers. How do you specify this range of numbers to CNet? CNet's range parser is extremely flexible and powerful, and quite simple once you understand its rules. In computer fashion, a range looks like x[-y][,z[-w]]... (did everyone understand that?) But let's take the example of reading items from a subboard prompt:

R1	Read item 1
R1-5	Read items 1 through 5
R1,5	Read items 1 and 5
R1-5,10	Read items 1 through 5 and 10
R1-5,10-15	Read items 1 through 5 and 10 through 15
R1,3,5,7,9	Read items 1,3,5,7 and 9
R7,1-3	Read items 7 and then 1 through 3
R1,1	Read item 1 twice

A maximum of 10 commas may be used. Individual "-" ranges must go from a smaller number to a larger number.

Pausing and breaking

CNet will recognize the ASCII standard control-S to pause text display. Any other key (except control-S!) will resume text display. This pausing method is implemented through software, however, so may appear "delayed" due to modem output buffering. When using high speed modems (9600 baud or better), it is advised that you instead use CNet's "more?" and paging features whenever possible.

Whenever you want to CANCEL something, control-C is your best choice of key sequences. Control-C will abort menus, messages, and many features which ask the user to wait (such as text searches and user lists). The slash ("/") may be used as an alternative to control-C.

A less potent "cancel key" is the SPACE BAR. The SPACE BAR is used to "skip" to the next response when reading an item with multiple responses. With high speed modems and CNet's "more?" and paging features, it is rarely used for this purpose any longer. The space bar will also abort menus. The space bar is not an effective way to abort searches.

Skipping prompts for faster action

Many commands have one or more "Yes/No" prompts associated with them, each of which has a "default" response of either Yes or No. To skip these prompts, automatically selecting the default responses, add an exclamation point ("!") to the end of the command.

"O!" will log you off without asking "are you sure?" and "want to leave feedback?". "F!" will immediately enter the editor to write feedback. "M John!" will ask for a subject and then enter the editor to write mail to John. "P!" (at a subboard prompt) will ask for a subject and then enter the editor to write a post, skipping the regular post option prompts. "R!" at the "Respond or pass" prompt will immediately enter the editor, skipping the prompts for addressee, etc. The exclamation point will work with ALL Yes/No prompts.

The exclamation point has been programmed to work in many other situations as well. To read an item or file

"continuously," without "more?" or "respond or pass" prompts, add an exclamation point. This is especially useful when buffer capturing text. Control-C will still work to break text display.

Busy sysops will appreciate the ability to use the '!' for certain maintenance commands. One example would be when cleaning out unwanted files from an Upload base. The command: "K1,5,7-9,12!" would kill files 1, 5, 7, 8, 9, and 12 without the need to answer any further prompts. Obviously, such power must be exercised with care.

Notes:

CHAPTER 7
Users, access groups, privileges, and limits

CNet supports 32 "access groups," numbered from 0 to 31. Each user of your BBS is assigned to just ONE of these 32 groups at all times. Two "special" group numbers are 0 and 1. Access group 0 is the group to which NEW USERS are automatically assigned. Access group 1 is the group to which AUTO-VALIDATED (call-back or caller-ID) users are assigned. All other access groups may be configured in any way you choose. Although most people prefer to make group 31 the "sysop group," you can select any number you choose (2-31). The number 31 has no special meaning over the number 2, for example. For simplification, some people prefer to use only a small number of the access groups, maybe only numbers 0 to 4.

Access groups really have TWO functions. First, each access group has its own "number" from 0 to 31. Many areas of the system (individual subboards and "list" areas) are protected with an "access groups" field. Such a field is set to a RANGE of access group numbers. Only users from those specified access groups may enter the area.

Each individual user account contains the privilege flags, ratios and limits that are used to determine which BBS functions that particular user has access to, how many calls he may make during a day, how many minutes he receives for each call, etc. The second function of an access group is to carry a "default" set of these user privilege flags, ratios, and limits. Whenever a user is "assigned" to group 0 or 1, or you manually change a user's access group number, the "new" access group's defaults are COPIED into the user's account information.

Note that the access group settings themselves are never actually used to determine access to BBS functions--each user's account settings are used instead. This means that once a user has been assigned to an access group and has received the default settings from that access group, that user's account may then be "customized" by using the "EA" command and manually changing any of the privilege flags, limits, or ratios. In the extreme, with customization, a user can be a member of group 31, but have all of the settings and privileges of a default member of group 0.

Note that if you again change that user's access group, the defaults from that new access group will be copied into the user's account, and any customization will be LOST.

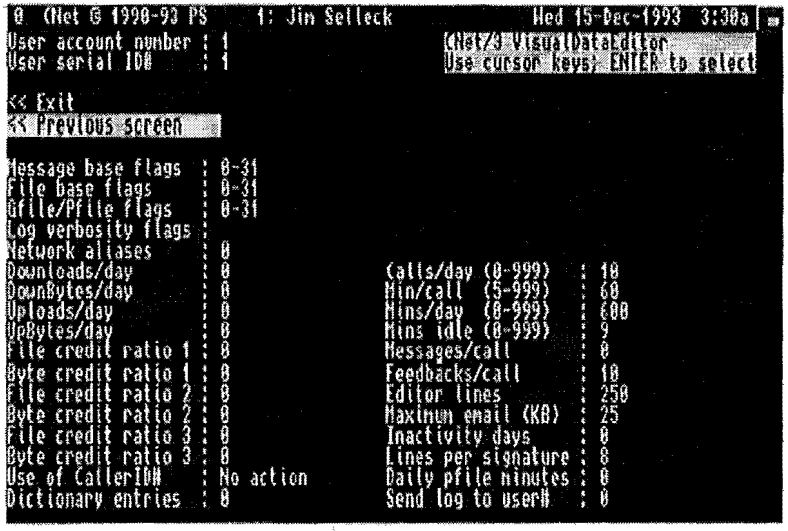
On the same token, because access groups are merely "default" access variable sets, when you change an access group's fields, this has no immediate affect on users who are already members of that access group. CNet provides a way to "apply" changes that you make to an access group to all of that access group's current members. This is called "transposing" access group defaults. The maintenance pfile "transpose" found in the maintenance directory of the pfiles area does just this. Transpose will ask you for an access group to transpose "from" and one to transpose "to." If you want to adopt the defaults of a particular access group into users' accounts who are members of that group, select that access group as BOTH the "transpose from" and "transpose to" groups. If you specify a different "transpose to" group, not only will users of the "transform from" group have their fields replaced with the fields from the "transform to" group, their access group numbers will be changed to that of the "transform to" group. This effectively allows you to change all members of one group to members of another all at once.

The EG and EA commands

To edit an access group default set, use the "EG" command followed by the group number (0 to 31). To edit a specific user's account, use the "EA" command. By specifying a RANGE of numbers, the EG command can be used to edit more than one access group at a time, and the EA command can be used to edit more than one user account at a time. When editing multiple groups or users, all fields in the visual data editor will initially appear "ghosted" (black on blue). Then, each field that you edit will "light up" to signify that its value will be applied to ALL groups or users that you specified.

The EG and EA commands share two identical screens--"privilege flags" and "limits/ratios/flags." Following are descriptions of the options found here. If used as part of a larger "system," individual flags and fields may be described again throughout this manual.

Editing Limits/Ratios/Flags



Message base flags: Each message area subboard has a "flags required" field. In order to enter the subboard, each flag (a number 0 to 31) specified in the "flags required" must also be present here in the message base flags. For example, if a subboard has flags required of 1-5,10, and a user has message base flags of 0-31 or even 1-5,10, he may enter the subboard. If the user has message base flags of 0-9,11-31, or even 2-5,10, he may not enter the subboard. In the first case, he was missing the "10" flag. In the second case he was missing the "1" flag.

File base flags: This field operates identically to "message base flags" but is used for subboards in the uploads area as opposed to the messages area.

Gfile/pfile flags: This field operates identically to "message base flags" but is used in conjunction with the "flags required" fields of the gfiles, pfiles and news subdirectories.

Log verbosity flags: From the CONFIG program's "logs..." screen, each system log is assigned a "flag" number from 0 to 31. In order for an event to be logged for a user, his "log verbosity flags" must include that log's flag. This allows you to "watch" the activity of certain users more closely. You may develop a scheme such as "logs

with a flag of 0 should be logged for all users" and "logs with a flag of 1 should be logged for less trusted users" and "logs with a flag of 2 should only be logged for users whose every move we are concerned about." In this example, you will want to give users log verbosity flags of "0" or "0-1" or "0-2" depending on your needs to monitor their activity.

Network aliases: When using netmail or UUCP mail frequently, it becomes a chore to remember and type large numbers of network addresses; one miss-keyed letter could send the letter to another user or to another location entirely. A network "alias" is an abbreviation for a complete network address. CNet will allow each user to use the EP command to enter as many network aliases as is specified by his "network aliases" field. When sending mail, the mail command will first check the recipient's name against the user's personal list of abbreviations. The editor is used to enter and edit network aliases. Each line consists of one alias and its abbreviation. For example, sending mail to Ken Pletzer at fido address 1:2410/215 is now as easy as using the "mail ken" command, and including the following when editing network aliases:

```
ken     Ken Pletzer@1:2410/215.0
```

Downloads/day: The actual number of files which the user may download from the system in one day (midnight to midnight). This number DOES include "free" files. Set this field to 0 to give the user unlimited download files.

Downbytes/day: The actual number of bytes which the user may download from the system in one day (midnight to midnight). This number DOES include "free" files. Set this field to 0 to give the user unlimited download bytes.

Uploads/day: The actual number of files that the user may upload in one day (midnight to midnight). This is included primarily for security reasons, to prevent users from overwhelming your storage capacity. Set this field to 0 to give the user unlimited file uploading.

Upbytes/day: The actual number of bytes that the user may upload in one day (midnight to midnight). This is included primarily for security reasons, to prevent users from overwhelming your storage capacity. Set this field to 0 to give the user unlimited byte uploading.

File credit ratios (1-3): A file "credit ratio" determines how many "file credits" the user receives each time he uploads a file. Each file credit the user has is good for downloading one file. There are THREE file credit ratio fields here. The credit ratio that is used during a given upload is determined by the subboard's "upload file ratio#." When a subboard's "upload file ratio#" is set to a number between 1 and 3, it corresponds to one of the three of the user's file credit ratios. When a subboard's "upload file ratio#" is set to 0, the user receives NO file credits for uploading into that subboard. For more information, please read the "credit ratios" section in the subboard chapter.

Byte credit ratios (1-3): This field works analogously to the "file credit ratio" fields for bytes instead of files. Please consult the discussion of file credit ratios above, substituting "byte" where you read "file."

Use of caller ID (no action; copy to data#; must exist; must exist/copy; must match data#): This field's setting determines how a caller ID signal is handled. How you actually set this value will depend on the actual security needs of your systems. Note that caller ID is only available in certain areas, and requires a phone company service fee, and a modem capable of receiving caller ID signals. If "no action" is specified, the user is always allowed to logon normally. Note that caller ID matches (the caller ID signal and a list of account #'s whose data phone numbers match the caller ID signal) are always noted in the caller log. If "copy to data#" is specified, each time that user logs on, the phone number from which he is calling (the caller ID signal), if present, is copied into his "data phone#" field. If "must exist" is specified, a caller ID signal must be present in order for the user to log on. The actual value of that caller ID signal does not matter (but is still noted in the log). If "must exist/copy" is specified, a caller ID signal must be present to log on, and that caller ID signal is copied to the user's "data phone#" field. If "must match data#" is specified, the caller ID signal must be an exact match of what is already in the user's "data phone#" field in order for him to be able to log on. Caller ID is explained further in the "logon" chapter.

Dictionary entries: The spelling checker built into the

visual editor has the ability to "learn" custom words for each user. This field determines the actual number of words which may be kept in the user's custom dictionary file. A user may edit and delete words from his custom dictionary by using the EP command. Each line of a user's custom dictionary file corresponds to one "learned" word.

Calls/day (0-999): The number of times that the user may log on to the system in one day (midnight to midnight). The special value of 0 is recognized to allow an unlimited number of logons.

Min/call (5-999): The number of minutes that the user may spend online each time that he calls. The special value of 999 is recognized to allow an unlimited amount of time each call. "Time remaining" will show as 999 in the status window for as long as this user is online.

Mins/day (0-999): The number of minutes that the user may spend on the BBS each day (midnight to midnight). This field is used together with "mins/call" to determine the actual number of minutes that the user may spend online during a given call. The special value of 0 is recognized to allow unlimited number of minutes per day; time will be limited only be calls/day and min/call.

Mins idle (0-999): A user is "idle" if the BBS is waiting for him to type at a command prompt. While text is being sent to the user, or the user is entering a command or text, he is not idle. This field determines the number of minutes for which the user may be idle before he is automatically disconnected from the BBS. During the last 30 seconds of "idle time," the BBS will "beep" (and the Amiga's screen will flash) once each 6 seconds, and the "time remaining" in the status window is replaced with the "idle timer." A value of 0 is recognized to allow unlimited idle time. For security, it is NOT recommended that you allow unlimited idle time to ANY user.

Messages/call: This field determines the actual total number of posts, responses, and mail messages that the user may enter during one call to the system. A value of 0 is recognized here to allow an unlimited number of messages to be entered. This field is included primarily for security reasons to prevent your system from being overwhelmed

maliciously.

Feedbacks/call: This field determines the actual number of feedbacks (private messages to the sysop) that the user may enter (the F command). There is no provision or need for unlimited feedbacks. A value of 0 actually prohibits the user from sending ANY feedbacks.

Editor lines: The default number of lines which the user may enter when writing posts, responses, feedback, and mail. While a user is in the editor, each line may occupy approximately 80 bytes of memory. Do NOT set this field to 0.

Maximum email (KB): Many users like to "keep" old mail long after they have read it. This field was designed to discourage that by limiting the size of a user's mailbox. Once a user's mailbox reaches the specified size (in kilobytes), mail senders are informed that the user's mailbox is "full." Your choice of values here depends on your system's space limitations. A value of 0 is recognized to allow an unlimited mailbox size.

Inactivity days: If you never deleted users from your BBS, you would find that some users call once or twice, and then never call back. Other users would go years without calling back. This field is used by auto-maintenance as a "cut-off" point. If the user goes the number of days as specified by "inactivity days" without calling the BBS, he is automatically deleted during auto-maintenance. This process is sometimes called "weeding" the user base, or "purging" inactive users. A value of 0 is recognized as making the user immortal on your BBS.

Lines per signature: Each user may use the EP command to specify "signature files"--files that are automatically appended to the end of each message that he writes. Signature files are a convenience feature, preventing the user from having to enter a perhaps very lengthy footer for each message that he writes. Signature files can be abused, however, and can often be very annoying if TOO long and used TOO often. This field allows you to keep your users in check by specifying the actual number of editor lines

which may be used when editing a signature file. A value of 0 is recognized as allowing the default number of editor lines (as specified by the "editor lines" field above).

Daily pfile minutes: The number of minutes that the user may spend using pfiles each day (midnight to midnight). This field was included because users sometimes abuse their use of games and other pfiles, and spend little or no time elsewhere on the BBS. Time using a pfile only counts against this limit if the "debit daily time" flag is set to "yes" in the pfile's attributes screen (the AT command from a pfiles area prompt). A value of 0 is recognized to allow an unlimited number of minutes using pfiles each day.

Send log to user#: For security reasons, the actions of specific users may be of some interest. If you set this field to a valid account number, a log of the user's activity will be sent to the mailbox as specified by the valid account number. The log in mail will appear identically is it does in the normal call log.

Privilege flags

All privilege flags are either "yes" or "no" unless otherwise indicated.

System operator: This is the big one. Having this flag allows a user to do just about anything he wants to. He can always enter all subboards and pfiles, gfiles, and news

areas. He always has access equivalent to a subboard operator in those subboards. He has access to ALL MCI commands. Many privileges are not "automatic" however, and are assigned separately as described by other flags. When calling from REMOTE, the special command ID must be used to gain remote system operator access to the system. This is an added security precaution. Passwords may or may not be set for the ID command. Consult the "maintenance" chapter for more information.

Send EMail: Whether or not the user may use the Mail command.

Receive EMail: Whether or not other users may send mail to this user.

Set mail expiration: Whether or not the prompt "# of days before auto-expiration" will appear when writing mail. Mail can be set to "expire" after a set number of days. Expired mail is automatically skipped and deleted when a user reads his mail.

Send bulk mail: Whether or not the user may use the MM (multi-mail) command. Multi-mail allows someone to send one message to a group of users all at once. See the "mail" chapter for more information.

Send party mail: Whether or not the "is this party mail" prompt will appear when a user enters bulk mail. Bulk mail that is designated as party mail causes all replies to the mail to be automatically distributed to all of the recipients of the original bulk mail. In order for party mail to be used, a "route file" must have been specified during the MM command.

Send urgent mail: Whether or not the "urgent mail (shown at logon)" prompt will appear when a user enters mail or bulk mail. Mail that is marked as urgent mail is displayed immediately after a user successfully logs on.

Forward mail: Whether or not the user may use the "FORward" command when reading mail. When you receive mail that is better read by some other user, or you wish to organize your mail between multiple sysop

accounts, the FORward command is invaluable.

Use the pfiles: Whether or not the user may use the "Pfiles" command to enter the pfiles area from the Main prompt.

Use the gfiles: Whether or not the user may use the "Gfiles" command to enter the gfiles area from the Main prompt.

Use the userlist: Whether or not the user may use the "UL" command from the main prompt. The userlist feature is very handy when you need to locate users. The program uses a large amount of processor and hard drive time, however, and can drastically slow other ports.

Conference: Whether or not the user may use the "Join" and "OLM" (On Line Message) commands. See the chapter "inter user communication" for more information. Without this flag, the user is also unable to RECEIVE OLM's.

MCI level 1: Whether or not the user has access to use any of the most basic of MCI commands. Which commands are considered "level 1" are actually definable through a line in BBSTEXT. See the "editors and MCI" chapter for more information.

MCI level 2: Whether or not the user has access to use any of the more advanced MCI commands. Which commands are considered "level 2" are actually definable through a line in BBSTEXT. See the "editors and MCI" chapter for more information.

Relogon: Whether or not the user may use the "Relogon" command from the main prompt. It is sometimes convenient to logoff and then immediately "call back" without actually being disconnected. This is handy when more than one person is calling from one location. However, this feature may easily be abused, making the "calls/day" and "minutes/call" fields powerless.

Bypass bbsevents: The CONFIG program's "event scheduler" contains several commands for limiting a user's access to the BBS based on baud rate and access group. Setting this flag to Yes specifically bypasses the

effectiveness of those events which may prevent logon, uploading, or downloading. See the "config" chapter for more information. This privilege flag will under no circumstances prevent an event from actually occurring (that is, auto-maintenance will always occur on schedule).

Alias message authors (Yes, no, sub): Whether or not the "use/change alias" prompt will appear when posting or responding. Setting this flag to Yes or No will cause this flag to always or never appear, respectively. Setting this flag to "sub" will cause CNet to honor the "allow alias" flag from each subboard's configuration. Only sysops and subboard operators may use another actual user's name or handle as an alias.

Adopt orphans: "Orphan" files are those found on the subboard storage device which are not currently listed for user access. This flag determines whether or not the user may use the "AO" command in a subboard to add "orphan" files to the list of files. This is primarily a sysop-only privilege.

Read private messages: When set to Yes, all messages in all subboards marked as "private" will be readable.

Kill/edit any file: When set to Yes, the user may use the Kill and EDit commands on all items in all subboards.

Kill/edit own files: When set to Yes, the user may kill items that he posted and uploaded (regardless of their age and number of responses). When a user kills his own file, he loses the file and byte credits that he gained by uploading it. The user may also use the EDit command to change the text of his messages.

Skip file validation: Newly uploaded files will require validation by a sysop or subboard operator only if the subboard flag "new file validation" is set to Yes, and this flag is set to "No." Unvalidated files may not be viewed or accessed by the users.

Write anonymously (yes, no, sub): Whether or not the user may remain anonymous when posting, responding, or uploading. Setting this flag to Yes or No either gives or

denies this privilege at all times on all subboards. Setting this flag to "sub" causes CNet to honor the subboard's "anonymous messages" flag. A subboard setting of "force," however, overrides a user setting of "no."

Trace anonymous: When set to Yes, the handles of all anonymous authors on all subboards will be shown in parentheses following the "By: Anonymous" when messages are read.

Private messages (yes, no, sub): Whether or not the "private message" prompt will appear when posting, responding, or uploading. Setting this flag to Yes or No either gives or denies this privilege at all times on all subboards. Setting this flag to "sub" causes CNet to honor the subboard's "private messages" flag. A subboard setting of "force," however, overrides a user setting of "no." Private messages are only effective if they are "addressed" to someone.

Conference control: This flag gives a user power over all inter-user communications. If set to Yes, he may see all "hidden" users, he may OLM any port, he may force an inter-user chat by adding "!" to the end of the CC ‹port#› command, and he automatically has "control" of any join tele-conference room which he enters. See the "inter-user communications" chapter for more information.

Infinite file credits: When set to Yes, CNet will not restrict a download based on the number of file credits that the user has. However, the user's file credits variable continues to be updated as normal, and may reach severly negative proportions if the user is a "leech."

Infinite byte credits: When set to Yes, CNet will not restrict a download based on the number of byte credits that the user has. However, the user's byte credits variable continues to be updated as normal, and may become negative if the user does not upload.

AutoCallBack @Logon (no, yes, opt): Primarily designed to be a security feature, if set to Yes, this flag will cause CNet to call the user back EACH TIME that he logs on. (If set to "opt" he is first asked if he'd like to be called back). Be VERY CAREFUL about how and for whom you set this

flag. CNet will call LONG DISTANCE if necessary. The normal auto-call-back routines and "avalid" files are used to determine which phone numbers are considered local. See the "logon" chapter for more information. A bbs "event" is necessary to actually enable auto-call-back at logon. The event command "callback" should be given an argument of "1" during times you wish auto-call-back at logon to occur, and should be given an argument of "0" during times you do not wish auto-call-back at logon to occur.

Timelock exempt: All subboards and pfiles/gfiles subdirectories have "minutes timelock" fields which determine the number of minutes that a user must be online before entering those areas. If this privilege flag is set to "yes," the timelocks will have no affect on the user, and he may enter any subboard as soon as he wishes.

Add new vote topics: Whether or not the user may use the "Add" command from the vote command prompt.

Add new vote choices: Whether or not the user may enter the choice of "0" when voting on a topic to add an entirely new choice.

Kill/Edit vote topic: Whether or not the user may use the Kill and Edit commands from the vote command prompt.

Edit handle: Whether or not the user may use the EU command to change his handle. This privilege should be withheld from most users for security reasons, but for your more trusted users, it makes the sysop's job easier.

Edit name, bday, sex: Whether or not the user may use the EU command to change his real name, his date of birth, or his gender. Most users will find that these items rarely change.

Edit address, st/zip: Whether or not the user may use the EU command to change his address, city, state, and zip code.

Edit voice phone#: Whether or not the user may use the EU command to change his voice phone number. If you

voice validate callers, it may be unwise to allow users to change their own voice phone numbers.

Edit data phone#: Whether or not the user may use the EU command to change his data phone number. If you validate users with caller-ID, it may unwise to allow users to change their own data phone numbers.

Allow WHO banner: Whether or not the user may use the EP command to set a line of text (called his "who banner") to be seen below his name on the WHO command display.

Use Termlink (no; ltd; ful): Termlink allows users on one port to dial out on another port. In "full" setting, users actually enter an unrestricted terminal mode on the call-out port. In "ltd" setting, users may choose from a list of BBSs to dial. Consult the "inter-user communication" chapter for more information.

Monitor another port: Port-monitoring allows a user on one port to view what a user on another port is doing. Optionally, the monitoring user can actually type into the monitored port. This is a very powerful feature and should only be reserved for system operators. Consult the "inter-user communication" chapter for more information.

Alarm sysop @logon: If set to Yes, an audible warning will sound when the user logs on to the BBS. A BBSTEXT line is output, which by default contains an MCI DOS command similar to chat mode paging. This feature is designed audibly notify you when specific users of interest log on.

Open screen @logon: If set to Yes, the port's screen will automatically be opened (as if you had double clicked in the control panel) when this user logs on. The port screen will also automatically close once the user leaves the BBS. If the port screen was already open, this flag will have no effect.

Open capture @logon: If set to Yes, the port's capture buffer will automatically be opened (as if you had used the port's pull-down menu) when this user logs on. The capture buffer will also automatically close once the user leaves the BBS. If the capture buffer was already open, this

flag will have no effect. NOTE that the capture buffer is stored in RAM until the pull-down menu is used to save or clear the buffer. If the capture buffer is open for too long, you may run out of RAM.

Send FIDO netmail: Whether or not the user may use the Mail command to send fido-net netmail. See the "mail" chapter for more information.

Send UUCP netmail: Whether or not the user may use the Mail command to send UUCP mail.

FIDO FReq and attach: Files may be requested and sent over the fido-net. This flag controls whether or not the user may use the FReq command to post file-requests to fido-net BBSs. To process file requests, CNet creates or appends "REQ" files in the fido-net outbound directory. This flag also controls whether or not the "request, attach" prompt will appear when entering fido-net netmail.

Hold and Crash mail: Whether or not the "crash, hold, normal" prompt will be given when entering fido-net netmail. The selected type is sometimes called the "flavor" of the netmail message, and determines the timing of its distribution across the network.

NetMail cost exempt: The fido-net nodelists contain a cost variable for each BBS in the nodelist. This number may reflect the actual "cost" of sending netmail to that address in your country's lowest currency (pennies in the USA and Canada). Unless you set them when you compile the nodelists, these cost values usually default to 0. After sending netmail, CNet will subtract this amount from the user's accounting balance, unless the "cost exempt" flag is set. Note that nodelist compilation is NOT performed internally by CNet. You will need to use a separate program such as "TrapList" for that purpose.

Costs are net credits: Instead of using the nodelist costs as "money" and subtracting them from the user's accounting balance, you may choose to use a system of "credits." Every user has a "network credits" field in his account. If you set the "costs are net credits" privilege flag to "yes," CNet will check and deduct from the user's "network

credits" field. The only way network credits are ADDED to this field from the BBS is by sysop use of the EA (edit account) command.

Receive DL rewards: A subboard may be configured such that "rewards" are given to the uploaders of files each time someone downloads their files. These rewards are based on percentages and other configuration variables. Consult the subboard chapter for more information. If a reward is due, setting the "receive DL rewards" flag to No will prevent the user from receiving that reward.

May page the sysop (no, yes, def): When a user pages you using the "Chat" command, he is either told that you are unavailable, or he is told that you are being paged. In the latter case, a BBSTEXT line is read that by default contains a DOS command to produce a sound on the Amiga. Some users you might WANT to know are paging you, and some you might NOT want to know are paging you. By setting this privilege flag to either "yes" or "no," you can select that the user is ALWAYS able to page you, or NEVER able to page you. Setting this privilege flag to "def" will allow the user to page you if the control panel's pull down menu option "sysop is in" is checkmarked. Note that the control panel may have different "sysop is in" settings for different ports.

Special Sysop EA functions

As was mentioned earlier, the EA command may be used to edit a specific user's account (or a range of user accounts). The fields found in two screens (privilege flags and limits/ratios/flags) are identical to those found in two screens of the EG command, which were described above. Much of the other information editable from the EA command screens is nothing more than what the user may edit himself using the EU, EP, and ET commands, so will not be considered in depth here. However, the EA command allows you to edit several other user variables which do not appear anywhere else. They will be described here:

Sysop comment: A line of text for your eyes only. This comment will be displayed at the bottom of the port status window when the status window is open. Also, while

looking at the control panel, a "+" will be displayed alongside a user's handle if there is a sysop comment. The "UserInfo" button can be used to quickly view the comment.

Expiration date: A date on which the user's access will automatically be changed to the "expiration access" group. When disabled, the date will read 00-Jan-00.

Expiration access: The access group to which the user will be assigned once the expiration date has been reached. Useful in cases where the user is on "probation" for a period of time, or if the user has paid for special access for a specific time period.

Phone verification (unv, acb1, acb, cid, cid1, sys): This field allows you to keep track of how a user was validated, or VERIFIED as leaving correct phone numbers. CNet will automatically update this field unless it is manually set to "sys," which should be used to indicate that a sysop has manually verified the user. "Unv" indicates that the user has not yet been validated in any of the following ways. "Acb" indicates that the BBS successfully performed auto-call-back validation on the data phone number during the user's last call. "Acb1" indicates that the BBS successfully performed auto-call-back validate on the data phone number at one time, but not on the last call. "Cid" indicates that the user's data phone number matched the caller-ID signal on his last call. "Cid1" indicates that the user's data phone number matched the caller-ID signal at one time, but not on his last call.

Time today (1/10s): The actual amount of time that the user spent on the system during the last day (midnight to midnight), not including the current call if the user is currently online. This value is given in TENTHS of a minute. On a new day, this number is not reset to 0 until the user actually calls. That is, it reflects the amount of time spent on the system during the "last call date."

Calls today: The number of calls the user has made to the system during the last day (midnight to midnight), not including the current call if the user is currently online.

Total calls: The number of calls that the user has made to the system in total.

Time credits (1/10s): This field provides a way to "temporarily" give the user more time for his next call(s). A user's maximum time per call will be computed as his "mins/call" setting PLUS the time credits setting. Note that time credits are given in TENTHS of minutes. Time credits are "used up" as the user spends time online. For example, if the user has a normal 40 min/call, and 100 time credits (10 minutes), he will have 50 minutes maximum the next call. If he only spends 4 minutes on line, his time credits will be reduced to 60 (6 minutes), and he will have a maximum of 46 minutes the next call. Time credits are only given from the EA command.

Network credits: This field contains the number of netmail "credits" the user has. This field is only considered when the user has the privilege flag "costs are net credits" set to Yes. See the discussion of that privilege flag. Network credits can only be given from the EA command.

Public messages/private messages: The actual number of posts and responses (public) and mail and feedback (private) messages that the user has entered.

Balance: This field is used in conjunction with the accounting system. The units are CENTS. See the section concerning the accounting system in the CONFIGURATION chapter for more information.

Pfile points: This field is here for sysop editing, but is not directly used by CNet. The AREXX command "addpoints" can be used within AREXX games to add and subtract from this value. This field is here primarily to give AREXX game programmers a user variable to use to track game advancement, etc.

CHAPTER 8 - User preferences

User configurable variables and preferences are split into three categories: user profile, terminal settings, and BBS preferences. There is a user command corresponding to each one--"EU" (edit user profile), "ET" (edit terminal settings), and "EP" (edit preferences). These commands are available at all command prompts.

The user profile

The "EU" command is used to edit the basic user profile data--name, handle, address, city, state, zip, voice#, data#, birthday, gender, and organization. All but the "organization" is self explanatory.

The "organization" is text that will appear below the user's name on posts and responses that he writes--it "identifies" him with a group. Once written, a message's organization line does not change--that is, changing the organization field in your user records does not affect existing messages.

There are five different privilege flags to control which of these data that a user may edit himself (without sysop intervention). They are "handle," "name, birthday, sex," "address st/zip," "voice phone #," and "data phone #."

If the system's user data file pointers (used internally by CNet to locate specific user files quickly) become corrupt or invalid, CNet will not allow use of the "EU" command. In this case, the sysop must use the maintenance pfile "pointers" to re-create the pointers.

The terminal preferences

The "ET" command is used to edit the user data fields which affect how CNet "talks" to the user's terminal program. CNet needs to know the size of the terminal's display, and which type of control-codes it understands. The fields here are:

Computer type: Chosen from the list in the "CNET:BBSMENU" file, menu number 30. Once users have chosen computer types, you should not alter the order of the computer types as given in menu number 30. It is OK to add new computer types at any time to the END of

the list (for a total of up to 32 choices).

Graphics set: ASCII, Commodore C/G, IBM, Amiga Int'l, or Amiga SkyPix. This information tells CNet how to "talk" to the user's terminal--which codes to send to produce certain characters. For example: Code number 225 could be any of several different characters depending on the graphics set. ASCII is the simplest of the graphics sets, containing only the letters, digits, and basic symbols, using only character codes 0-127. IBM and Amiga International use the same ASCII codes 0-127, but offer support of the graphic or multi-lingual "extended" character codes 128-255 as well. Commodore C/G also uses all character codes 0-255, but does not use the same ASCII codes for letters, numbers, or basic symbols. "SkyPix" is usually an IBM character set, with the added ability to display simple raster graphics like circles, lines, patterns, etc. SkyPix has limited usefulness and compatibility because it is an exclusive Amiga protocol.

ANSI support: None, Simple, or Full. ANSI stands for "American National Standards Institute." ANSI as an organization is responsible for the determination of standards for a wide variety of industries and scientific processes. The word "ANSI" in the computer BBS world has become synonymous with the ANSI documents concerning terminal emulation--which code sequences to send to change colors, move the cursor, etc. It is appropriate to speak of "ANSI terminal emulation." The ANSI terminal specification actually consists of an extended "VT100" command set. If your terminal program is "dumb" and does not support ANSI at all, select "none." If your terminal program supports VT100 or limited ANSI (colors and cursor movement), select "simple." Only select "full" if your terminal is capable of understanding the ANSI command sequences to insert and delete characters from a line, and to insert and delete lines from the screen. Many terminal programs for the PC compatibles only support "simple" ANSI. Use the visual editor to determine if your terminal program supports simple or full ANSI. If characters insert and delete correctly in "full ANSI" mode, your terminal supports full ANSI. New users should be able to determine their correct ANSI support level by answering several questions posed in the New User questionaire.

Line feeds: Yes or No. All terminals use the carriage return character to move the cursor to the beginning of the line. Most terminals require an extra character (a line feed character) to advance the cursor to the NEXT line. If your terminal requires line feeds, and you set this field to "no," text will appear to display "all on one line."

Screen width: the number of characters that fit across your screen from left to right. Most terminals are designed for 80 characters. This field is provided for compatibility with other possible screen sizes, such as 120, 40 or even 22 (any VIC-20 users still out there??). CNet uses this field when determining when to wrap text. When a user follows directions in the editor, that is to press ENTER only when beginning new paragraphs, CNet is able to reformat (re-flow) text to match a screen of any width.

Screen height: the number of characters that fit across your screen from top to bottom. Most terminals are designed for 24 characters. Some terminals, however, offer more. CNet uses this field in conjunction with the "more?" mode, to determine when to pause screen output. It is also used by the visual editor to determine the number of rows to offer.

ANSI tabs: Yes or No. The ANSI standard for terminal tabbing is default tab stop at each 8th column. When an ANSI terminal receives a TAB, it advances to the next tab stop (1st, 9th, 17th, etc.) column. If your terminal supports this, CNet will send the actual tab character, assuming your terminal will move the cursor as expected. Without this ability, CNet must send individual "space" characters to achieve the proper alignment. This option is provided simply as a means of achieving better efficiency, although with the advent of high speed modems, it is not as needed as in the past.

ANSI color: Yes or No. Although a terminal may be capable of supporting most ANSI, it may simply be incapable of interpreting color change commands. If this is the case, or if you are using a monochrome monitor, or if you simply prefer a black and white display, set this option to "no."

The BBS preferences

The "EP" command is used to edit your BBS preferences. CNet offers the user a great deal of power and configurable features. Many of them are controlled from the options found here. They are as follows:

Help level: Novice, Intermediate, Expert, Super-user. This field should be set to reflect your familiarity with the BBS and CNet BBSs in general. Novices receive "help-lines" at command prompts, listing the most commonly used commands. Intermediate (and more advanced) users do not receive these help lines. The "entry" and "exit" files for subboards are not displayed to super-users. There is currently no distinction made between intermediate and expert users.

More? mode: Yes/No. Set this option to Yes to receive a prompt "more (y/n/c)?" each time your screen fills up. This feature makes use of the "screen height" field as set from the ET command. From the "more?" prompt, press N to attempt to abort the text. Press C for "continuous" printing (no additional "more?" prompts will appear until the next command prompt). Press any other key to receive the next page of text.

Message reading: Continuous, Prompts, ANSI paging, ANSI scrolling. This option controls the way in which subboard posts and mail messages will be read. "Continuous" means to read the item's responses immediately after the original post without command prompts in between. CNet will still honor the "more?" mode, however. A "respond or pass" prompt will appear only after the last response has been read. Setting this option to "Prompts" will cause CNet to give the "respond or pass" prompt after EACH response. When set to "continuous," it is still possible to get the "respond or pass" prompt to appear before the last response. Use control-C, or hit "N" at the "more?" prompt. The "ANSI paging" option must be used in conjunction with the "more?" mode. When enabled, CNet will retain the "header" of each message on the screen, as pages of the messages are displayed underneath, separated by "more?" prompts. "ANSI scrolling" may or may not be used in conjunction with the "more?" mode. "ANSI scrolling" will again retain

the "header" of each message on the screen, but this time, text appears to "scroll" underneath the header, while the header remains stationary. Enabling the "more?" mode here is a good idea for high speed modems or when using local console mode.

File xfer protocol: This option provides a way to set the default file transfer protocol without actually transferring anything. Normally, CNet prompts to change the default protocol each time a file transfer is about to begin.

Time zone: -23 to 23. CNet maintains a "system" time, but displays all dates and times to users relative to their home time zones. For example, if a message was posted at 5:15pm on a BBS in Michigan, all local users (and users in the Eastern Time Zone) will see the message as being posted at 5:15pm. By setting the "time zone" to -5, users in Hawaii, however, will see the message as being posted at 12:15pm. The -23 to 23 range of values insures that even BBSs and users in the middle of the Pacific Ocean, separated only by the International Date Line, will still be able to use this feature. One POSSIBLE option is to keep your system on UCT (Universal Coordinated Time) or GMT (Greenwich Mean Time), and have ALL users (even local users) set their time zones.

Time format: 12 or 24 hours. When set to 12 hours, CNet uses "a" and "p" to distinguish times in the AM from those in the PM hours. This is the most "user friendly" and intuitive choice for most North Americans. When set to 24 hours, CNet uses "military" or 24 hour time, with "0" meaning 12 midnight, "12" meaning 12 noon, and "23" meaning 11 PM.

Mail box/forward: You may use this option to "close" your mailbox. Only system operators may send mail to closed mailboxes. You may also use this option to set a "forwarding address" for your mail. Instead of receiving mail to your mailbox, you may instead choose to automatically forward all incoming mail to another location. Currently, mail may only be forward to another "local" user's mailbox (that is, not to a network address).

Text translation: If you are using multiple languages or

text sets (see the modifications chapter), this option may be used to change the default text set. This option allows you to, for example, switch from the English to French languages, or from "CNet style" to "IBM style" user interfaces.

Auto hide & muffle: (Off; Your own port; Other ports; All ports). This feature allows you to automatically invoke the effects of the "HIDE" command after you logon (see the inter-user communication chapter for details). By hiding from your own port, you prevent yourself from seeing "echoes" of everything you type into the join teleconference. By hiding from other ports, you prevent other users from knowing that you are on-line, or have even logged on. By hiding from all ports, you get the effects of both.

Default editor: CNet comes with two "internal" default editor choices, the line editor and the visual editor. Additional "external" editors may be added (see the CONFIG chapter). This option allows users to select which editor will be used for writing messages. In the case of CNet's two internal editors, commands exist in each to allow the user to switch between them.

Message bundling: The user fields set here are used to control the operation of the subboard "Yank" command (see the subboard chapter for details). You must select a packer or archiver (like ARC, ZOO, or LHA). This will be the program used to pack the Yank or QWK files. You may select the packer to be "TXT," which is not an archiver or packer at all. Using "TXT" tells CNet NOT to do any packing. The file will be readable and editable as soon as it is downloaded--no unpacking will be necessary. NOTE that because QWK packets actually consist of multiple files, QWK message bundling REQUIRES a packer--QWK can not function with a setting of "TXT" here. The other field set here is an "end of line" sequence. This setting affects only Yank files--it has no effect on QWK packets, which follow a predetermined structure. The "end of line" sequence may be chosen as Carriage Return (CR), Line Feeds (LF) or both (CR/LF). Amiga users will want to set this to LF. Commodore 64/128 users will want to set this to CR. Most other users will want to set this to CR/LF.

Your UUCP ID: This is the (up to) eight character name that you will use on the UUCP network(s). If the BBS is not connected to a UUCP network, this field is of little consequence. Most people use their initials, their first initial and last name, or their first name and last initial. Rarely do people use something unrelated to their real names. Before you are able to send mail or post in a UUCP network subboard, your UUCP ID must be set.

Edit signatures: (Default; Local mail/feedback; UUCP messages; FIDO messages/handles; FIDO messages/real names; Other messages/handles; Other messages/real names; Upload descriptions/handles; Upload descriptions/real names). Separate, different signature files may be created for these nine purposes. Signature files are automatically added to the end of messages as they are saved. Using a subboard flag, sysops may disable the use of signature files in specific subboards. If one of the eight specific signature files has not been written, CNet will attempt to use the "default" signature file. To remove a signature file, edit the signature file, delete all of the lines, and then Save the empty text.

Edit "who" banner: Your "who banner" appears underneath your name and other information in the WHO command display. This option allows you to change this message. New users' "who banners" are copied from a BBSTEXT line which by default reads "Be nice to me, I'm new. :)"

Edit MACROS: (Control-E; Control-F; Logon). A "macro" is an abbreviation or a symbol that is "expanded" to mean something more complex. Using CNet's MACRO feature, you can "program" your control-E and control-F keys to ouput any text you wish. They will then work similarly to the way the function keys do in local mode. You can set them to commonly used command sequences, or to commonly used phrases. The special character ` (backwards apostrophe) is recognized here to mean a carriage return (the ENTER key). The "logon" macro is text that will be added to your input buffer automatically when you first logon. If there is a command or series of commands that you execute each time you logon, the logon macro can be used to save you some time.

Edit user dictionary: This feature is used in conjunction with the visual editor's spelling checker (see the editors chapter). When the Learn command is used, CNet attempts to place the new word into this file. Occasionally you may wish to view or manually edit this dictionary file. NOTE that the spelling checker requires that you place only one word per line. The number of words (lines) that may be added to this file is limited by each user's account "dictionary entries" field.

Edit network aliases: This feature was added to make use of netmail faster and easier. Netmail addresses are long and sometimes difficult to keep straight. For example, the way to send mail to Ken Pletzer via FidoNet is "mail ken pletzer@1:2410/215.0." The network aliases feature allows you to give "aliases" or abbreviations for the mailboxes you send mail to the most often. The mailbox may be either a UUCP or FidoNet address. Use one editor line per abbreviation. The format is:

‹ alias› ‹ address›

for example:

ken	Ken Pletzer@1:255/2410.0
future	future@engin.umich.edu

Now, sending mail to ken is as easy as "mail ken." Each user is limited to the number of aliases specified by their user account variable "network aliases."

CHAPTER 9 - The Subboards

CNet uses the term "subboard" to refer to an area where users can post messages, read messages, upload files, and download files. Depending on its configuration, any CNet subboard can contain just messages, just files, or a combination of both. Other BBSs sometimes refer to subboards as "areas," "bases", "bins", or "sigs".

CNet organizes its subboards into two logical groups--the uploads base, and the message base. To enter the uploads base from the Main prompt, use the "Uploads" command. To enter the message base from the main prompt, use the "Base" command. Other than the logical distinction between these two divisions, CNet treats any subboard like any other subboard. The commands available to users in an uploads base subboard are identical to those available to him in a message base subboard. However, it is possible to restrict access to any of uploading, downloading, posting, or responding in any subboard on a per-subboard basis. The choice is yours as to whether or not you wish to allow your users to upload in any or all of your message base subboards, and whether or not you wish to allow your users to post messages in any or all of your upload base subboards.

Creating subboards

To create a subboard, use the "AL" command from the Uploads base or Message base prompt. You can also use this command from a subdirectory prompt. Subdirectories and subboard tree structure will be explained in another section.

The first question will be "use direct disk access?" Direct disk access subboards will be explained in another section. Press RETURN for now.

The next question will be "copy from physical subboard#." If you have already added and configured a subboard, and wish to copy its configuration to the subboard you are adding now, you may enter the existing subboard's physical subboard number at this prompt. Physical subboard numbers are displayed on the subboard edit (EL) screens. If this if your first subboard, or you do not wish to

copy the configuration from another subboard, just press RETURN.

The next question will be "Is this a subdirectory?" Subdirectories are pathways to additional lists of subboards. Subdirectories are explained further in another section. If you want a subboard which will contain actual posts and/or files, answer no or just press RETURN at this prompt.

The next question will be "Title to appear on list?" You can enter anything you wish here, or just press RETURN to abort the AL procedure. The title that you enter here will be the actual title that the user sees when he lists the available subboards. It does not affect actual filenames or directory names.

The next question will be "name used on disk (unique)." Each subboard must have associated with it a UNIQUE name, suitable to be used as an AmigaDOS filename, and DIFFERENT from all of your other subboards. CNet will use this name when creating storage directories on your hard drive for the subboard. Subdirectories and direct disk access subboards must also be given unique names to allow for the creation of a data directory to store various subboard information. In the case of a fidonet subboard, the "name used on disk" must match the echo's "tag" name as given by your fidonet coordinator.

The next question will be "path to subboard data structures." This path will default to BASE0: or UDBASE0: (depending on whether you are in the Message base or Uploads base, respectively), followed by the unique subboard name you previously selected. For most purposes, this is OK. By default, all subboard data (text and headers) are stored in BASE0: and UDBASE0:. Do not alter this scheme unless you are an advanced user and really know what you are doing.

The next question will be "enter the partition range" with a default of 0. If this subboard will not be used to store files, or will be used to access files from a specific path (as in the case of a CD Rom), or you only have one hard drive partition for the BBS, just press RETURN. Otherwise, you may select a range of hard drive partitions over which this subboard's files will be stored. You should have created

and decided upon these partitions during CNet's initial configuration. Although partition 0 defaults to BASE0: or UDBASE0:, partition 0 is actually COMPLETELY DEFINABLE for each subboard. You will be asked for the path to partition 0 later. For partitions 1 and greater, CNet assembles the path names to these partitions by using the prefixes "BASE" or "UDBASE" (depending on whether you are in the Message or Uploads base, respectively), followed by the partition number, and then the unique subboard name (for example, UDBASE1:SUBNAME/). See the section paths and partition if you have any doubts about what this prompt is for.

The final question will be "partition0/CDROM/netpath." If this subboard will not be used to store files and is not a UUCP subboard, press RETURN. Otherwise, what you enter here will become the primary path to this subboard's files (sometimes referred to by CNet as "partition 0"). By default, this is BASE0: or UDBASE0: followed by the subboard's unique name. However, if this subboard will be used to access a CD ROM, now is the time to specify the path to the CD ROM directory (for example, CD0:ibm/games/action/). If this subboard will be used to store UUCP messages, now is the time to specify the UUCP directory (for example, UUNEWS:alt/movies/sttng/ for a UUCP subboard entitled "alt.movies.sttng"). If this subboard is a direct disk access subboard, now is the time to enter that path (for example, RAM: or DF0:).

If CNet has no problem finding or creating the directories you have just specified, you will then find yourself in the visual data editor (VDE) looking at the subboard configuration (EL) screen. For most cases, a default configuration is acceptable. If you are familiar with browsing this screen, or have already read the section to come "viewing/editing subboard configuration," now is a convenient time to make final configuration changes to your new subboard. If everything looks OK, or you are not yet familiar with the BBS, just press RETURN here to exit the VDE.

Paths and partitions

In the simplest of CNet configurations, all Message bases are stored in BASE0: and all Upload bases are stored in

UDBASE0:. Within BASE0: and UDBASE0: can be found subdirectories, one matching each of the unique subboard names that you used when you created the subboards. Within each of those subdirectories appear all files uploaded to that subboard, and another subdirectory entitled "data." The data subdirectory contains the item header and other index information. This configuration is the default, and would be obtained by simply pressing RETURN when prompted for data path, partitions, and partition 0 path when creating subboards.

The first way to customize this setup is to change the default "partition 0/CDROM/netpath." You may have already done this if you have set up a CD ROM or direct disk access subboard. By default, this path is set the same as the "path to data files." However, by changing this field, you can cause the subboard to look at any path you choose to find files. Here's an example, involving three subboards, each storing uploaded files onto different partitions:

```
        Title:          Games and more
        Unique name:    games
        Data path:      UDBASE0:games/
        Partitions:     0
        Part0 path:     UDBASE0:games/
All default here

        Title:          Bad games
        Unique name:    bad
        Data path:      UDBASE0:bad/
        Partitions:     0
        Part0 path:     DH2:bad/
Customized to DH2:

        Title:          Adventure games
        Unique name:    adventure
        Data path:      UDBASE0:adventure/
        Partitions:     0
        Part0 path:     DH3:adventure/
Customized to DH3:
```

The above examples show some of the power of CNet's file subboard configuration--but there's more. The above examples demonstrated subboards which stored all of a subboard's files on one partition. This works well for most

configurations. However, for the advanced system operator, CNet has the ability to SPLIT a subboard's files between more than one partition. This is where the "partitions" setting can be used.

Valid partition numbers are 0 through 31. Any combination of these may be used. When CNet needs to know what "partition 0" is, it refers to the "part0/CDROM/net path" as configured in the subboard. This was shown in the examples above. When CNet needs to know what partition 1, partition 2, and up to partition 31 are, it uses the prefix "BASE" or "UDBASE" (depending on whether you are in the Message or Uploads base, respectively), followed by the partition number, and then the subboard's unique name. You must use ASSIGN commands in your startup-sequence files to make these assignments to your physical hard drive partitions. You can have these logical partitions assigned to your physical hard drive partitions in any way that you want. However, it is recommended that you follow a logical order to make it easy for you to remember:

```
UDBASE0:   is    DH0:udbase/
UDBASE1:   is    DH1:udbase/
UDBASE2:   is    DH2:udbase/
           etc.
```

For example, if you have a subboard configured as follows:

```
Title:         Games and more
Unique name:   games
Data path:     UDBASE0:games/
Partitions:    0-2,4
Part0 path:    UDBASE0:games/
```

CNet would look in the directories UDBASE0:games/, UDBASE1:games/, UDBASE2:games, and UDBASE4:games/ for the subboard's files. As files are uploaded, CNet will place them into the hard drive partition(s) with the most amount of free space. Using the Adopt Orphans (AO) command, you can also directly add files from any one or a combination of these partitions. Users will see the files listed together. The fact that these files are spread across multiple hard drive partitions will not be known to them.

Memory and buffers

When a user enters a subboard, memory is allocated for that subboard to hold its item headers. The amount of memory allocated is dependent upon the maximum number of items that the subboard is configured to support. A moderately sized subboard will hold 150 items. If you increase this value (as described in the next section), you should be considering the memory you are asking for. A subboard configured to 1500 items will use ten times as much memory as one configured for 150 items. The number of responses that items have does not require additional memory--a subboard may have 20,000 responses and experience no memory problems. As other users enter the same subboard, additional memory is not allocated--they will all "share" the data structures already in memory. If there is not enough memory to enter a subboard, the user will be given the message that the subboard is "temporarily locked."

If memory permits, you may edit the subboard's configuration to specify that part or all of a subboard's data structures remain allocated and loaded in RAM. If you set the "keep buffers" to "headers", the short "_headers3" file will be retained in memory once all users have left the subboard. The _headers3 file is the one that is immediately loaded when a user enters a subboard. It contains information to determine which messages are new, and how to sort them. If this file is already in memory, efficiency of moving between subboards will be greatly enhanced. This file is also used by the global file duplicate checking routines. If at all possible, to prevent delays in global file duplicate checking, you should attempt to keep the headers in memory at least in your subboards which contain files.

You may also set the "keep buffers" to "headers+items" which will cause CNet to retain both the _headers3 file AND the much larger _items3 file in memory. There is little need to do this, as CNet loads the _items3 file in sections, and only as-needed. However, if you have the RAM to spare, you may try keeping these in memory if you have a couple of subboards which receive a large amount of traffic.

Viewing/editing a subboard's configuration

The final step of creating a subboard brought you to a screen where you could move around using the cursor keys and edit various subboard configuration information. You can return to this screen at any time by using the "EL" command while at the subboard's prompt. From this screen, you can edit several of the parameters and paths that you originally specified when creating the subboard. If you edit the paths, CNet will not be able to MOVE data between partitions. It would be wise to check the configuration from the Shell after making path changes to a subboard. Other options available from this screen include:

Origin/distribution: For Network subboards. In a fidonet subboard text entered here will override the default "* Origin" line as configured for the network. In a UUCP subboard text entered here will be used as the "Distribution:" line in outbound messages.

ARCs uploadable: The CONFIG program contains a list of archiver/packer programs. Each of these archive types has its own number, beginning with 0. CNet recognizes the archive type (if any) of an upload file by reading the 3 letter filename suffix, such as .LHA, .DMS, or .ZIP. The ARCs uploadable field determines which of the listed suffixes may be uploaded. The restriction is limited to the suffixes specifically listed, files uploaded with a suffix NOT in the

list of archiver/packer programs will NOT be rejected.

ARCs transformable: Again using the CONFIG's archiver/packer program numbering, this field determines which file types will be transformed using the transformation scripts. Transformation is completely described in another section.

Transform to: CNet has the ability to "tranform" archives of one type to another. Specify here the number of the archive type to which to attempt to transform uploads. CNet requires a "script" file for every possible transformation procedure, as well as the archiver programs themselves, for this feature to work properly. Transformation is completely described in another section.

Network affiliation: For local (non network) subboards, keep this field at its default of "none." Otherwise, set this field to reflect either UUCP, or one of the fidonet domains that you have configured using the CONFIG program.

Scan filler: This field can be set to contain up to 3 characters to be displayed alongside of the subboard title when users List the available subboards. Subdirectories are by default set to have a scan filler of "DIR."

Upload file ratio number: Set this number to a value of 1, 2, or 3 to correspond to the three upload file ratios that the user has in his account. Set this number to 0 to NOT award file credits for uploading.

Upload byte ratio number: Set this number to a value of 1, 2, or 3 to correspond to the three upload byte ratios that the user has in his account. Set this number to 0 to NOT award byte credits for uploading.

Upload file charge#: This value, together with the other three charge# values (upload byte charge#, download file charge#, and download byte charge#) refer to values in the current accounting system schedule. If set to a value of 1, 2, or 3, they correspond to one of the three charges for the respective function. If set to 0, the user is not charged for the transaction. The accounting system is covered in greater detail in another chapter.

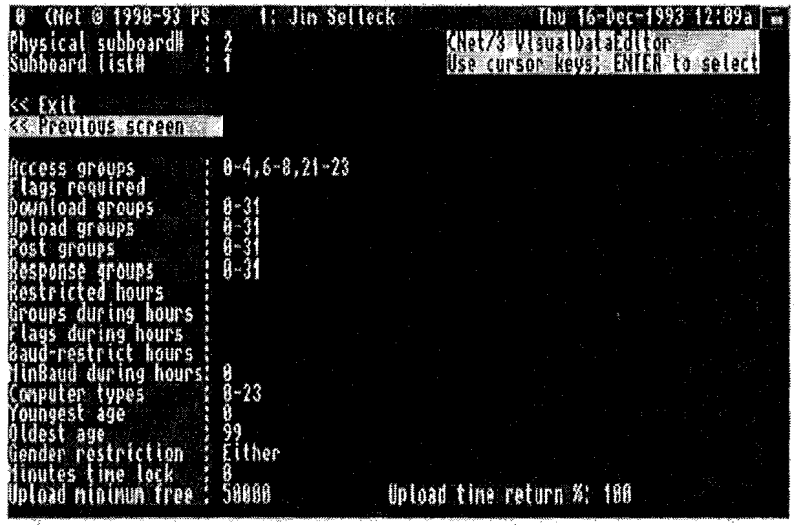
Auto-free after days: This field specifies the number of days that must pass after a file is uploaded before it will become completely free to download (no credit or accounting charges).

Amaint inactive days: This field specifies the number of days that an item must remain inactive before automaintenance kills it. A post is inactive if it has not received a response in the specified number of days. A file is inactive if it has not been downloaded in the specified number of days.

Last message serial number: This field holds the serial number of the last message that was posted in this subboard. This value must never be set lower. It is OK to set the value higher in the event that the subboard structures are lost, and the subboard is re-added using old data files.

UUCP HiWater: In a UUCP subboard, this field holds the number of the last message that was imported from the UUCP directory. This field is automatically updated. However, if you wish to re-import messages beginning at a lower message number, just set this value lower and re-run the UUCP to CNet import program IUUNEWS.

The "Edit Access Vars" screen



Access groups: The range of access groups which may view this subboard on a list of subboards. It is important

that you set this and other access variables for ALL subboards, regardless of whether the subboard is within a subdirectory that the user does not have access to. Certain CNet functions process subboards by physical number, with disregard for the actual subboard tree structure.

Flags required: Each user has in his account fields called BASE and UDBASE flags. In order to enter a subboard, a user must "have" each of the flag numbers as specified by this field. CNet checks the user's BASE or UDBASE flags fields depending on whether the user is in the Message or Uploads area, respectively. For example, if the "flags required" is 0-4,10, a user with flags of 0-31 may enter, but a user with 0-9,11-31 may not, because he is missing flag 10.

Download groups: Determines which access groups may download files from this subboard.

Upload groups: Determines which access groups may upload to this subboard.

Post groups: Determines which access groups may post to this subboard.

Response groups: Determines which access groups may respond to items in this subboard.

Restricted hours: Set a range of hours during which to use an ALTERNATE set of "access groups" and "flags required" fields. This allows you to split access to the subboard based on the time of day. Restricted hours can be, for example, 0-23 for all day, 9-17, for 9am to 5pm, or 0-9, 17-23 for all times OTHER than 9am-5pm.

Groups during hours: Used instead of "access groups" during times of the day (system time) that fall within "restricted hours" as configured above.

Flags during hours: Used instead of "flags required" during times of the day (system time) that fall within "restricted hours" as configured above.

Baud-restrict hours: Set a range of hours during which to restrict access to the subboard based on the user's baud rate.

For instance, you may not want users with 300-2400 baud using your games subboard during prime time.

MinBaud during hours: The minimum baud rate which as user must be using in order to enter a subboard during the times specified by "baud restrict hours." The user's connect baud rate is displayed near the center of the bottom line of the status window.

Computer types: This field is provided so that you may restrict access to a subboard based on the user's chosen computer type. CNet supports the configuration of 32 computer types, each with a number 0 to 31. Use the "computer types" field to select a range of computer types which may enter the subboard. A computer type "name" can be associated with each computer type number by referring to/modifying the file "CNET:BBSMENU," under the heading of menu number 30.

Youngest age/oldest age: To enter the subboard, the user must fall within the age range as specified by these two fields. CNet uses the user's birth date as he supplied in the new user program.

Gender restriction: Using this field, you can create subboards limited to just males or just females.

Minutes time lock: This field specifies the number of minutes which must pass after a user logs in before he will be able to enter the subboard.

Upload minimum free: This field specifies the minimum number of BYTES which must be free on the upload drive before CNet will allow an upload to occur. The default is 1,000,000 (1Meg).

Upload time return %: If, for example, a user spends 40 minutes of his 50 minutes-per-call limit uploading, he will have little time left to do anything else. This field allows you to "give back" any fraction of that time once the upload is completed. 100% means ALL of the time will be returned--using the numbers above, the user will get 40 ADDITIONAL minutes to use during that call or anytime that day. 50% means HALF of the time will be awarded. 200% means DOUBLE the time will be awarded.

The EL "Other Flags" screen

Subboard closed: A flag that you can quickly toggle to temporarily keep users out of a subboard. Only sysops and subboard operators will be allowed to enter.

Invitation only: If this flag is set to "yes," the only way that a user will be able to enter the subboard is if you specifically INVITE him using the "INvite" command from the subboard's prompt. To display a list of users invited to a subboard, use the "MEmbers" command. If the "invitation only" flag is set to "no," the invite command is still operational, but will in this case UN-INVITE specific users from a "public" subboard.

Default as dropped: By default, users are "joined" to all subboards. Users can use the subboard commands "Join" and "DRop" to change this condition. If you set this flag to "yes," users must specifically JOIN the subboard before they will be able to scan or yank new messages from it.

QWK reply upload sub: To allow your users to use the QWK system for reading and replying to messages offline, somewhere on your BBS you must create a direct disk access subboard which has this flag set to "yes." Assign it a subdirectory such as "UDBASE0:qwk/." This subboard will be used for temporary uploading of "QWK" reply packets when the user uses the "QWK" command from any

command prompt. Users may also choose to enter this subboard and upload QWK packets directly. Only QWK packets will be accepted into this subboard, and all uploaded files will be deleted at completion of the QWK import procedure. The QWK subboard can be visually "hidden" (so that it accessible ONLY through the QWK command) by placing it inside a subdirectory which only the sysop can enter. However, for the command to function for users, the QWK subboard itself must have its access parameters set so all qualified users can enter and upload.

Show names/handles: In terms of displaying user's real names, you may choose to have certain subboards more "private" than others, and some more "public" than others. Also, some network subboard require "names only". This field has 6 possible states from which to choose. They are:

Handle (name)	: Show (name) or (handle) if user
Name (handle)	: set his name as not-private info.
Handle + name	: Show both handle and name,
Name + handle	: you choose which one shows first.
Handles only	: Only show handles.
Names only	: Only show names.

Sysops and subboard operators will always see both names on all messages, regardless of this field's setting. In addition, they will see anonymous and "alias" messages with user's handle in the parentheses.

Disable ALL MCI: Setting this flag to "yes" will disable users from being able to enter MCI (control Q and Y) into their posts and responses. It will also prevent MCI in existing messages from being interpreted.

Address messages: Setting this flag to "yes" will allow users to address their messages. Message addressees will have their names displayed in message headers, and will be notified of new messages addressed to them as they enter the subboard. Setting this flag to "force" will prevent a user from entering a message unless he has addressed it to someone. This setting is especially useful in file-mail subboards, described in the Mail chapter. Even if set to

"no," sysops and subboard operators are always allowed to address messages.

Private messages: Setting this flag to "yes" will allow users to mark messages in this subboard as "private," readable only by the addressee and themselves (and sysops and subboard operators). Setting this flag to "force" will automatically cause addressed messages to be marked as private. This setting is primarily useful in "private mail" or "file mail" subboards. Even if set to "no," sysops and subboard operators, and users with the "private messages" flag in their accounts set to "yes" are always allowed to specify messages as private. Even if set to "yes," users may only leave private messages if the "private messages" flag in their accounts is not set to "sub" or "yes."

Anonymous messages: Setting this flag to "yes" will allow users to mark messages as being from "anonymous" instead of their real names or handles. Setting this flag to "force" will automatically cause all messages to be marked as anonymous. Even if set to "no," sysops and subboard operators, and users with the "write anonymously" flag in their accounts set to "yes" are always allowed to specify messages as anonymous. Regardless of the setting of this flag, users may only leave anonymous messages if the "write anonymously" flag in their accounts is set to "sub" or "yes."

Def. Notify ULer @DL: Each file item is assigned a flag called "Notify ULer at DL" which, if set to "yes," will cause CNet to send mail to the uploader each time the file is downloaded. This item flag is only editable by sysops and subboard operators using the "AT" command from the subboard prompt. The "Def. Notify ULer @DL" flag allows you to specify the default setting of this item flag for each new upload to this subboard.

New file validation: If you or the subboard operator(s) wish to personally view and "validate" new uploads before they are made public to other users, set this flag to "yes." If set to "no," new uploads will automatically be "validated" and will be available for immediate download. To validate new uploads, use the "Validate" command from the subboard prompt.

Show unv. files: This flag determines whether or not your users will be shown unvalidated uploads. If set to "yes," users will see the word "‹ unvalidated› " in place of the item's actual filename (unless they themselves uploaded the file). Sysops and subboard operators are always able to view the filenames of unvalidated items. When the filename of an unvalidated item is displayed, the letter "v" will appear alongside the item number during a Scan.

Global dup check: This flag, if set to "yes," will search ALL subboards accessible by the user to insure that the file is not already online before allowing that file to be uploaded. Many optimizations have been made in this searching algorithm, but it still may appear "slow" and even "timeout" some less-patient terminal programs when you have many thousands of files online to be searched. CNet has the ability to keep the subboard header files memory resident, avoiding ANY disk access during global duplicate checking. The header files are relatively small, so even a large BBS can usually do this without running out of RAM. Set the subboard flag "keep buffers" to "headers" to insure FAST duplicate checking if you choose to use this feature.

No signatures: Using the EP command, users can create custom "signature" files, which are automatically appending to the ends of messages. In some circumstances, these signature files may be unnecessary or unwelcome (in the case of many network subboards). Setting this flag to "yes" will prevent CNet from appending the user's signature files to messages written in this subboard.

No post/rep charges: The accounting system has settings for charges (or credits) to be applied when users post or respond. Setting this flag to "yes" will cause those charges NOT to be applied for posts and responses in this subboard.

No read charges: The accounting system has settings for charges to be applied when users reads messages in a subboard. Setting this flag to "yes" will cause those charges NOT to be applied for posts and responses read in this subboard.

File transformation: A "script" file is a list of AmigaDOS commands to be executed in order. Scripts are sometimes

also called batch or "BAT" files. Using scripts, CNet has the ability to "transform" files from one type to another. For example, in a subboard designed for IBM callers, you may wish to transform any files uploaded in .LHA form into .ZIP files. In most Amiga user subboards, you may wish to do just the opposite. This field controls WHEN the appropriate script will be executed. If set to "no", no transformation will take place. If set to "amaint," it will be performed during your auto-maintenance procedure. If set to "immediate," it will be performed while the user is still online, immediately after the file is uploaded. Please see the section concerning file transformation for more information about this powerful feature.

File testing: Using the archiver programs, CNet has the ability to test new uploads for file integrity. This flag determines WHEN that testing will occur. If set to "no," no testing will be performed on the files. If set to "amaint," files will be tested during your nightly auto-maintenance procedures. If set to "immediate," files will be tested immediately after they are uploaded, while the user is still online. Files which FAIL the file integrity test are automatically UNVALIDATED and marked with a "!" character beside their item numbers during a Scan. Please see the section concerning file testing for more information about this powerful feature.

Purge old responses: By default, auto-maintenance (amaint) will delete only ENTIRE ITEMS when they become inactive (a specified number of days passes without a response or download). However, setting this flag to "yes" will apply the "amaint inactive days" purge routines to INDIVIDUAL RESPONSES to items. As responses to items become "old" (the specified number of days passes since they were written), amaint will kill them without killing the original post or the "new" responses.

Amaint adopt orphans: If you set this flag to "yes," amaint will automatically search all of the partitions for which the subboard is configured for "orphan" files (not listed as items on the subboard). These orphan files will be added to the subboard (provided there is room in the subboard). User number 1 (the sysop) will be listed as the "uploader" of these files. This option is useful for file networking subboards.

Allow aliases: If you set this flag to "yes," users will be able to use any name (except the names of other users) when writing messages. When these messages are read, only the "alias" name will be shown. Sysops and subboard operators will see the user's handle inside of parentheses beside the alias. Sysops and subboard operators are allowed to use aliases at any time, and ARE allowed to use the names of BBS users when choosing aliases.

Kill/edit own items: If this flag is set to "yes," users will be able to use the "Kill" and "EDit" commands to kill and edit posts or files that they have posted or uploaded in this subboard. If the "kill/edit own items" flag in the user's account is set to "no," he will not be able to kill or edit his own items regardless of the subboard's flag. If the "kill/edit own items" flag in the user's account is set to "yes," he will ALWAYS be able to kill or edit his own items regardless of the subboard's flag. Of course, sysops and subboard operators can kill or edit anything that they damn well please.

Add new vote topics: Each subboard may have its own "voting booth," which users may enter by using the "VOte" command from the subboard prompt. This flag determines whether or not users will be able to add their own vote topics here. By default, only sysops and subboard operators may add vote topics to a subboard. NOTE: vote topics may be "linked" to items by using the "AT" command, and entering the vote topic's serial number. This will activate the VOTE command from the "respond or pass?" prompt.

Carbon copy to EMail: This feature automatically creates a "carbon copy" of each post and response that is entered into the subboard and sends it to the addressee's private mail box. While reading his private mail, the addressee will be able to respond to message privately, and directly into the base in which the original message appears. If set to "no," no carbon copying is done. If set to "yes/def. on," users will begin to receive carbon copy messages immediately. If set to "yes/def. off," users will have to use the special command "CArbon" from the subboard prompt in order to enable carbon copied messages from that

subboard. Users can use the "CArbon" command to disable carbon copied messages from subboards which send them by default.

Def. purge status: Each item in each subboard has a field called its "purge status." The purge status determines when and how an item will be removed from the subboard. You can edit each individual item's purge status field by using the "AT" command. The subboard's "default purge status" field allows you to pre-set each new upload's purge status field to a specific value. These values are as follows:

Auto: remove the item during amaint once the item has become inactive (no responses or downloads after a specified number of days). This is the default.

@DL: once the item has been downloaded, immediately change the item's purge status to "@amaint" (see below). This is a very useful setting for a private user-to-user file-mail subboard.

Query@DL: once the item has been downloaded, ask the downloader if he'd like for the item to be removed.

@amaint: the item will be removed during the next auto-maintenance procedure. Using this as a default would cause all new uploads to the subboard to be deleted nightly.

Protected: the item will not be deleted during auto-maintenance, regardless of its inactivity status.

Use CDROM temp dir: if this flag is set to "yes," all downloads from this subboard will first be copied to a temporary directory. This CDROM temporary directory is defined in the CONFIG "paths..." screen. By copying files from the CDROM all at once at the beginning of the download, contention is avoided when multiple users attempt to download from the CDROM simultaneously. This contention could be a serious bottleneck in the case of a multi-disk changer. Users are notified that copying from the CDROM may take a few seconds.

Item arrangement: users are able to select the order in which they would like items to be listed in the subboard's "scan" list. The command that users may use to change the order of items is "ORder." The subboard field "item arrangement" allows you to set an initial or default setting for the order of items in this subboard. Possible values are

chronological, reverse chronological, alphabetical, and three "files first" versions of the first three values. When using a "files first" setting, files are always listed at the beginning of the list of items, followed by the posts.

Def. item overrides: each file item has associated with it four values: file payback (#), byte payback (%), file cost to DLer (#), and byte cost to DLer (%). Each of these is described individually below. Each item also has associated with it a flag called "these items override." If that flag is set to "yes," then CNet will use the ITEM'S four variables when determining paybacks and costs. If that flag is set to "no," then CNet will use the SUBBOARD'S four variables for determining paybacks and costs. As new files are uploaded, CNet copies the subboard's four variables into the item's attributes. The subboard flag "def. item overrides" determines how each item's "these items override" flag is initially set on new uploads. In determining how you will set this flag, you must decide whether (when you change these four subboard values) you want your changes to affect ALL items, or only NEWLY UPLOADED items.

File payback (#): how many file credits to award to the UPLOADER of this file each time that it is DOWNLOADED.

Byte payback (%): how many byte credits to award to the UPLOADER of this file each time that it is DOWNLOADED. The actual number of byte credits awarded is calculated as a percentage of the size of the file.

File cost to DLer(#): how many file credits to charge the user who attempts to download this file.

Byte cost to DLer(%): how many byte credits to charge the user who attempts to download this file. The actual number of byte credits charges is calculated as a percentage of the size of this file.

Sub-op account # (1-6): Each subboard can have associated with it up to 6 users who are the supervisors. They are sometimes called "fair-witnesses" or "trustees" of the subboard. CNet refers to these individuals as "subboard

operators" (or "sub-op" for short). Subboard operators have all the privileges of system operators, but limited to their subboard only. They may kill or edit any item. They may view private, anonymous, and aliased message authors. They can download without being charged file or byte credits. For each subboard operator, enter their account number into one of the 6 entry boxes. Users can use the special command "VIew" to list the subboard operators of any subboard.

Editing more than one subboard at a time

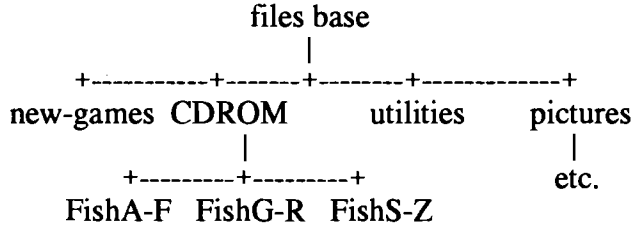
The edit subboard "EL" command may also take an argument--a RANGE of subboard numbers from the current list of subboards. When you use this feature, CNet will bring you into the visual data editor with ALL of the fields ghosted (all black on blue). When you attempt to CHANGE any of the fields, that field will become active (white on blue). If you save your changes, the values in the fields you activated will be applied to all subboards in the range of subboards that you specified.

Subdirectories: Creating a subboard tree structure

As your BBS grows, you may find yourself continuously in need of adding subboards. With large numbers of subboards, it is helpful and more user-friendly to "group" similar subboards together, and not to present possibly hundreds of subboards to the user all on a single list. CNet offers this capability by providing a special type of subboard called a "subdirectory." Users will see subdirectories on lists with other subboards, but with the special marking of "(dir)" to the left of the subdirectory's name. Moving into a subdirectory is as easy as moving into a subboard--just enter its number at the command prompt. Instead of moving into an actual subboard, however, the user will be presented with a new list of subboards (and possibly other subdirectories).

It is in this way that you can formulate a "tree" structure to your BBS's message and file areas. All global read-new and search commands automatically traverse subdirectories. In addition, there are several commands designed specifically for ease of movement through the subboard tree

structure (described in the next section). Following is an example graphic representation of a subboard tree structure (each subdirectory shown may contain a number of subboards):



To create a subdirectory, use the AL command from the files or message area prompt, or from the prompt you receive immediately after entering any subdirectory. The process proceeds similarly to that of adding a subboard. When you are prompted "Is this a subdirectory?" however, answer Yes. You will still be prompted for a unique subboard name, and a path to data files. These are necessary, as the subdirectory may itself have entry, exit, and other data files which must be kept somewhere. If the process succeeds, you will be taken to the visual data editor as you were when entering normal subboards. You will notice, however, that many of the subboard variables do not apply to subdirectories. Those that do not apply will be "ghosted"--shown in black on blue, and un-editable.

One very important note must be made. Subdirectories DO have their own access group, flag, and other access restriction variables. When users manually browse through the subboard tree, these flags will be honored just as they are for normal subboards. However, many "global" commands like Yank, and (Z) search move through the "physical" subboard structure, and do not follow the subboard tree structure. It is necessary and REQUIRED that you set access restriction variables on each individual subboard, regardless of its position within a subdirectory which may have its own access restriction settings. That is, although a subboard may not be visible to users because it is within a subdirectory that they do not have access to, they may still be able to access that subboard by using global commands, like "scan for new files as logon" or "yank global new."

One note about limits. Any list of subboards may contain up to 238 subboards and subdirectories, in any combination. Subboards may be nested virtually indefinitely. For clarity and ease of navigation, it is wise to limit this nesting to no more than a few levels, however. The absolute number of subboards that CNet supports is, for all intents, unlimited.

Navigating the subboard tree

Several commands are available to provide for movement through the subboard tree.

At any subboard or subdirectory prompt, the "List" command will provide the current list of subboards and subdirectories. Entering a number from this list at a subboard or subdirectory prompt will move you into that subboard (or in the case of a subdirectory, into a new list of subboards).

The "› " and "‹ " commands are available to move to the "next" and "previous" subboards, respectively. These commands are "smart" in the sense that if the "next" subboard is actually a subdirectory, CNet will enter the first subboard in that subdirectory, recursively if necessary. Moving to the "previous" subboard works using similar logic.

The "/" command will move the user to the previous list of subboards. This is equivalent to moving "up one branch" in the subboard tree.

The ":" command will move the user to the "root" list of subboards, as if he had just entered the files or messages area from the main prompt. This command and the previous "/" command are similar in function to the DOS commands "CD :" and "CD /" respectively.

Users may decide that they are not interested in certain subboards. These subboards may be removed from "› " and "‹ " traversal by being "dropped." The "DRop" command at the subboard prompt provides users with this ability. The "Join" command provides the opposite effect. "Dropped" subboards are also skipped in ALL global commands just as

"scan for new at logon" and global searching.

Each subboard may have an "entry" file and an "exit" file--files that are displayed to users as they enter and exit a subboard, respectively. To write or edit these files, a sysop or subboard operator may use the "ENtry" and "Xit" commands. To completely remove one of these files, save a blank file. These files are SKIPPED for users who have selected "super user" as their help level using the EP command. These files are by default SKIPPED for global commands like RA or SG. To show the entry and exit files during global commands, add the "banner" modifier.

Rearranging and removing subboards

You can move a subboard to any other position on the list of subboards. Use the "ML" command followed first by the number of the subboard you wish to move, and then by the new position you wish it to have. For example, to move subboard #10 to the beginning of the list, use "ML 10 1." The "ML" command is only able to move a subboard to another position in the current directory of subboards.

To remove a subboard, use the "KL" command, followed by the subboard's number from the list of subboards. You must be at the "Message base," "Upload base," or a subdirectory prompt--you must not be "in" a subboard. You will be asked if you would like to "delete files also." This provides you with a way of removing the subboard from the list, but not actually deleting anything. If you do not delete the files, and then re-add a subboard with the same "unique dirname" and paths, the subboard will "reappear." This allows you to move subboards to other subdirectories if you need to.

Direct disk access subboards

Direct disk access subboards provide users with the ability to perform "low-level" DOS directory commands (like "dir" and "cd") on a specific DOS subdirectory (like DH0:files/) or entire DOS partition (like RAM: or DF0:). Direct disk access subboards are convenient for maintenance operations, "quick swap floppy" subboards, and in some cases, CD ROM applications.

Adding a direct disk access subboard begins just like adding any other subboard--with the "AL" command. Direct disk access subboards require unique subboard names and data paths to store subboard-specific data files, just like other subboards and subdirectories. The VERY important path for a direct disk access subboard is the "partition0/CDROM/Netpath." This path should indicate the subdirectory or partition to which users of the subboard should have access. This path defaults to the data path.

Note that users will ALSO have access to all DOS subdirectories visible within the path you choose. This means that if you select your path to be DH0:, users can also download from DH0:C/.

Once you have entered the path information, you will be taken directly to the visual data editor to edit the new subboard's structure. Most of the fields here will be ghosted. This is the major disadvantage of using direct access subboards--most of the powerful subboard features are not available. Short file descriptions (DOS "filenotes") are limited to 79 characters in length. Simple statistics like the name of the uploader, number of downloads, and best CPS rate are unavailable in direct access subboards. Commands specific to these subboards are as follows:

The "CD" command will display the current path. The CD command also takes arguments, just like DOS. Specify path names, use the "/" character to step back one directory tree level, or use the ":" character to return to the home directory. Users will NOT be able to move outside of the directory or partition as specified by the subboard's partition 0 path.

The "Scan" command displays the current directory's actual contents, in a format similar to the DOS "list" command. DOS wildcards are available here, as with most commands in the direct disk access subboard.

The "Note" command will allow any user of the subboard to make changes to a file's filenote (short description). Because no distinction is made between users in this subboard, ANY user may make changes to the filenote.

The "Kill" command may only be used by sysops and

subboard operators. DOS wildcard characters may be used.

The "Download" and "*" (select) commands work a bit differently here. Files matching the specified (optional) pattern are displayed one by one. The user has the option of responding "yes" to download the file, "quit" to stop listing files, or any other key to display the next file.

The "Upload" command works as it does in any other subboard, except the user may not enter "long descriptions" for files. File "validation" is not an option here. Unfinished files are not marked as such, but may be resumed simply by using the "Upload" command again, and sending the file again (using a resumable protocol, such as Zmodem).

In a subboard configured with the "QWK reply" flag set to "yes," only ".REP" files will be processed. Once QWK importing is finished, ALL files are then deleted.

CD-ROM subboards

Choose a unique dirname (and a default "path to data dir") just as with any other subboard. However, set the "path to part0/net/cd" field to point to the directory on your CDRom which will contain the files available in this subboard (like "CD:fish/800-820/820/"). Do not forget the last "/". To add the files into the subboard, use the "AO" command. A description of this command is given in the "uploading and downloading" section.

You should set the "use CDROM temp dir" field to Yes if you are using a multi-disk CDROM unit, or a very slow single-disk unit. Setting this field to Yes will prevent two users from using the CDROM at the same time. Files are copied from the CDROM to the temporary directory you chose from the CONFIG "paths..." screen before they are used.

UUCP subboards

Choose any "unique dirname" for this subboard that you wish. The "path to part0/cd/net" field should be set to the path where the UseNet message files are stored for this subboard (like "UUNEWS:rec/arts/startrek/"). Do not

forget the last "/". The origin/distribution line should contain the information added to the outgoing "distribution:" lines (like "world" or "na"). Set the network affiliation field to read "UUCP". See the networking chapter for more information.

FidoNet subboards

The "unique dirname" for a FidoNet subboard should be the network tagname of the echomail area. You should set the "network affiliation" to reflect the network with which the subboard is associated. If you do not wish to use the default CONFIG origin line, you may enter a custom origin line for the subboard into the "origin/distribution" field. If you are using CNet's tosser, you may leave the "path to data dir" and "path to part0/cd/net" fields set to their defaults. If you are NOT using CNet's tosser, you need to set the "path to part0/cd/net" field to point to the subdirectory where the ".msg" files are kept for this subboard. See the networking chapter for more information.

Items and the post and response format

Two things that CNet message bases are NOT: An "unthreaded" message base simply lists all messages in chronological order, each with its own title, without links between messages at all. A fully threaded message base allows responses to messages, and responses to responses, producing links between messages going in all directions. Fully threaded message bases also often list messages in strict chronological order.

CNet uses a "post and response" format in each subboard. Only posts have titles and appear on a list to the user. All responses to a post are added to the end of that post. This method is very different from the unthreaded or fully threaded message base formats. It is possible to consider CNet to have a "partially threaded" message base. The "Read" command is used to read an item and its responses together. Because all responses to a post are grouped together chronologically, responses to responses are not encouraged.

CNet's "post and response" format offers a great deal of

organization and ease of use--users do not have to deal with each message individually, but rather as groups of messages or "items" of conversation. Users do not have to deal with BBS messages like "this is message 52332 in response to message 49223." Nevertheless, you will find that users sometimes respond "off topic." When this happens, you should encourage them to use the "Post" command to bring up a new subject, instead of using the "Respond" command at the "respond or pass" prompt.

At the very end of reading an item, or at the end of each response, depending on the setting of the EP option "message pausing", the prompt "respond or pass" appears. From this prompt, the following options are available:

. : read the entire item again, beginning with the original post.

+ {n}: move forward a specified number of responses. If you just read response 2, "+3" will read response 5.

- {n}: move backward a specified number of responses.

Again: read the most recently read message again. Repeats what you just read.

Last: read the LAST response to the item.

New: begin reading the item from the first new response.

Over: read the item over, beginning where you did when you first began reading the item. That is, if you were reading new items, "over" will begin at the first new message. Otherwise, "over" will begin at the first message.

Post: same as the post command from the subboard prompt. This allows you to enter a new post (even quoting from the item you are currently reading) when a response to the existing item would be inappropriate.

Quit: stop reading this item. If you are reading multiple items, no further items will be read. When reading multiple items, and you want to stop reading this item, moving on to the NEXT item, use the "pass" command instead.

Respond: add a response message to this item. The message you enter should be relevant to the item's discussion. If you are about to enter a message off-topic, use the "Post" command instead.

Scan: list the response numbers, dates, authors, and addressees of all responses. The original "post" message is considered response "0".

Vote: sysops and subboard operators may add subboard-specific vote topics to a subboard by using the subboard "VOTE" command. Users may vote on these topics by using the VOTE command. Individual subboard vote topics may be "linked" to specific items by using the AT command to set the "vote link serial#" field to the vote topic's serial number (displayed when you vote on the topic). In this way, the VOTE command can then be used from the "respond or pass" prompt, immediately voting on a specific topic.

Yank: Bundle all messages in the current item for downloading. Invokes the yank-task to bundle this particular item. See the description of the yank-task in the "downloading messages" section.

Z : invoke the interactive text search on this particular item. See the description of the Z command in the "finding what you are looking for" section.

‹ {n}: When reading multiple items, as with the "RN" or "R ALL" commands, the "‹ " command can be used to go BACK a specific number of items in the range of items. This can be useful, for example, if you are reading items, and forgot to respond to one. Instead of quitting, or remembering where you were and going back later, use the "‹ " command.

› {n}: When reading multiple items, as with the "R all" or "R favorite" commands, the "› " command can be used to go FORWARD or SKIP a specific number of items in the range of items.

The commands Download, Examine, Grab, Validate, * (select), Write, ATtribute, Kill, TEst, TRansform, and EDit (all described elsewhere) are also available from this prompt.

Ways to find what you are looking for

When a subboard contains items, how do you see what's there? How do you find the items you are looking for?

The "Scan" command is probably the subboard command you will use the most. Scan shows items numbers, post or upload dates, number of responses, filenames or titles, file sizes, and descriptions. A '*' is printed to the left of the number of responses if the item itself is "old" but contains new responses. Other characters may appear to the left of the date, like '!' if the item is "missing" (off-line) or if the item failed the integrity check, '+' if the item is marked as a "favorite" item, 'v' if the item is un-validated, '-' if the item is unfinished or undescribed, or 'p' if the item is private. Only sysops, authors, and addresses will see the 'p'--other users will see "‹ private item› " in place of the title. The 'v' will only be shown if the subboard flag "show unvalidated" is set to Yes. Otherwise, users will see "‹ unvalidated› " in place of the title.

Use SG to scan all items on all subboards, or SA to scan new items on all subboards. Any of the range keywords may be used with the Scan command (see the section "selecting ranges of items"). The 'text' operator is especially useful with the Scan command. It searches for a pattern of letters or characters within titles or short descriptions. "SG 'text'" will find items with "text" in their title or short descriptions on all subboards.

Browse works very similarly to Scan. Browse, however, offers a command prompt after each screen full of Scan output. Many of the most important item commands are available from this prompt. * (select), Read, Download, Grab, Examine, Kill, EDit, TEst, TRansform, Write, Validate, and others. So many people find Browse a more efficient alternative to the Scan command that the Browse command is available from the NSAL command (New Scan at Logon), and the prompt that appears when you first enter a subboard with new messages. Use BG to browse all subboards, BA to browse new items on all subboards. All range keywords are available to the B and BG commands (see the section "selecting ranges of items").

The FIND command is available from any command prompt. FIND will search for FILES whose filenames match a pattern you specify. The only limitation with FIND is that it is only able to search the first NINE characters of filenames. FIND is not a good way to search for files with specific "extensions" (suffixes). If you do not specify any wildcards, CNet will add "*" to the beginning and end of your input, matching files with your string anywhere in the first nine characters of their filenames. All DOS wildcard patterns are available for use with the FIND command. For example, FIND ([a-b]*|cn*) will match files beginning with A, B, or CN. When FIND locates a subboard with at least one file matching the pattern you've specified, a "Browse" command is performed on that subboard, as if you had used "Browse" with the FIND pattern as its argument.

The FIND command is usually very quick. On BBSs with large numbers of subboards, you may need to set the "keep headers" fields of those subboards to "headers only" in order to maintain the efficiency of FIND (and the global duplicate checking routines). See the description of the "keep headers" field, or the "memory" section of this chapter for more information.

CNet provides a way to search the TEXT of messages. This is the SLOWEST of the available search methods, and should NOT be used to just look for TITLES. Use the "Z" command when you really want to search the messages (items and responses) of items for a specific text string.

You are given the option to search using a background process (in fact, the yank-task). If you choose to use yank-task, CNet will allow you to continue to use the BBS while it performs the search. You will receive an OLM when it has finished. The "RM" command is used to read the marked messages. When you search using the background process, you are able to set keywords AND filters, as you are able to do with the "NSAL" and "NM" commands (see a description of these in the "Scanning for new messages and files at logon" section.

If you choose NOT to use a background process, CNet will search interactively. You are only able to select "keywords," not "filters." When a matching item is found,

you are shown the item "scan" display, and individual lines of text which contain the keyword(s). The keyword(s) will be highlighted. If one number is shown before the line of text, it is the text line number in the original post. If two numbers are shown, the first is the response number, and the second is the text line number.

Press control-C at any time to abort the search. Use "ZG" to search ALL subboards. All range keywords are available to the Z and ZG commands (see the section "selecting ranges of items").

Uploading and downloading files

To download a file or a range of files, use the "D" command. To "select" files for downloading, use the "*" command. When you are ready to download all of your selected files, use the "DS" command. Files that you un-select at the "DS" prompt will be "temporarily" removed from the select list. Once you have completed the download, the un-selected files will reappear.

To empty your select list, use the "*C" command. To view your selected files, use the "SS" command. files that you un-select from the "SS" prompt will be removed permanently from your select list.

CNet will allow you to select more files than you have time to download with the current call. A message to this effect will be displayed when the select list is displayed. During a download, CNet will automatically arrange files so that as many files can be completely sent as possible within the time allowed. CNet will also allow a user to begin downloading a file for which he does not have the time to complete. This allows users with limited call times to download very large files, provided they are using a resumeable protocol like Zmodem. They can resume interrupted downloads on the next call.

When downloading files from a subboard with the "Use CD ROM temp dir" flag enabled, CNet will first copy all of these files to the CD ROM temporary directory (as configured from the CONFIG "paths..." screen). This option is provided to prevent multiple users from accessing the CD ROM simultaneously, creating bottlenecks.

You may "download" files from local mode. CNet will prompt you for a path. If you enter a path, CNet will actually copy the selected file(s) to this "target" path.

To upload files, use the "U" command. CNet will first prompt for a file transfer protocol. With this knowledge ahead of everything else, CNet will know whether or not to allow the user to "skip" the filename prompts. When using a "batch" protocol (like Zmodem or Ymodem), the filenames are included in the data transferred over the modem during the transfer. When using a non-batch protocol (like Xmodem), the user must enter the filename because it is not transferred with the actual file.

CNet will check the subboard "upload minimum free" field to make sure there is enough free space on the disk. In the case of subboards with multiple partitions, CNet will choose to upload to the partition with the most available free space. All files in a given batch upload will always be placed on the same partition.

Just as is possible with posts (and if allowed by the subboard) you may choose an addressee, choose an alias, select to be anonymous, select to be private, etc. See the description of the "post" command for more information.

A user may be disconnected while uploading a file. Depending on the protocol he is using, CNet may or may not delete the unfinished file. If the protocol is "resumeable" (see the protocols... section of the CONFIG chapter) like Zmodem, the file will be added to the subboard, but as "unfinished." The file will be marked with "!" next to the item number on a scan list. CNet will report the message "(unfinished file)" when the item is read. Unfinished files cannot be downloaded.

Any user, using a "resumeable" file transfer protocol, may complete the unfinished upload. The way to do this is by using the "U" command, followed by the unfinished item's number. It is OK to upload other "new" files at this time as well. The user completing the file will receive the file and byte credits, and will be considered "the uploader" of the file.

The file transfer log (read using the "LU" command) normally shows the one letter "unique identifier" for the protocol used to upload, followed by the baud rate (like "Z144"). If the file was left unfinished, a "U" will instead be used (like "U144"). If the file was resumed and finished, a "R" will instead be used (like "R144").

Two files by the same name may never be uploaded into the same subboard. If the subboard option "global dupe check" is enabled, a file with a name matching the name of any other file in any other subboard may not be uploaded. This feature uses a method similar to the "FIND" command to locate duplicate filenames. On larger systems, this may take considerable time during a file transfer, and may even cause the file transfer protocol to "time out." To prevent these delays, and providing you have enough memory, insure that the subboard "keep buffers" fields of all of your upload area subboards are set to "headers only."

After an upload, you will be asked to enter descriptions for your files. A "short" description is always required. In fact, a file must have a short description, be finished, and be validated before you will receive file or byte credits for the file. The maximum number of lines used for short descriptions is determined by a field on the CONFIG "limits..." screen. Long description are optional. If you leave files undescribed, you may later use the "W" command to write descriptions for them (and to receive credits).

If you immediately disconnect after an upload, CNet will send you mail telling you of unfinished or undescribed files.

There is a way to "upload" your short descriptions along with the files themselves. You may upload a file entitled "files.bbs." This file should be formatted as:

```
filename        description line 1
        {description line 2}
        {etc}
filename2       description line 1
        {etc}
        {etc}
```

All filenames should be entered at the beginning of a line. The rest of the line, and all consecutive lines which begin with a space or a TAB, will make up the short description for that file. You may describe as many files as you wish. CNet will automatically delete the "files.bbs" file after the upload--it will never be added to the subboard as an item itself.

You are limited as to the number of files which you may upload at once by a field on the CONFIG "limits..." screen.

Adopting Orphan Files

The way to add files which are already on the disk to a subboard is by using the "AO" (Adopt Orphans) command. You will be prompted for a partition number and a file pattern. Access to this command is controlled by a user privilege flag. This command operates very similarly to the Upload command. Perhaps where this command is most useful is with CD ROM subboards. After you have configured a CD ROM subboard (described in a section above), use the AO command to add items to the subboard. Many CD ROMs contain "files.bbs" or other description files. Give CNet the appropriate description filename as found on your CD ROM, and CNet will automatically adopt the short descriptions. To automate the entire process (to skip the prompts for short and long descriptions), use the "AO!" command. NOTE that there is a maximum to the number of files that you can adopt at one time as determined by an option on the CONFIG "limits..." screen.

The "AO" command may be used from a QWK direct exchange subboard to adopt QWK reply packet(s) without uploading them. You must have placed the QWK reply packet(s) into the subboard's directory.

Other ways to view files

CNet offers two ways to "view" a file without actually downloading it--"Examine" and "Grab."

The "Examine" command is used to view the contents of an "archive" file (like Zip, Zoo, Arc, Lha, etc.). It is often very helpful to know the names of the files stored in an archive before you spend time downloading it.

In order for CNet to recognize an archive as being a viewable archive, its archive type must be listed in the "archivers..." screen of the CONFIG program, with a valid "view format" field. See the CONFIG chapter for more information.

The "Grab" command is used to display the ASCII or HEXADECIMAL contents of a file. Grab will ask "Hex or ASCII?" Selecting Hex will produce a display similar to the "type opt h" DOS command. Selecting ASCII will cause CNet to attempt to "read" the file. NOTE that attempting to ASCII-grab a non-ASCII file may produce unintelligible gibberish on the screen.

Selecting ranges of items

There are MANY ways to select items to scan, read, download, etc. You can select items by number or name. Any valid RANGE of numbers may be used, like "R1", "R1-5", "R1,10" etc. Names may contain any valid DOS wildcards, like "S file", "S *.txt", "S br*", "S games.???", etc.

Following are the keywords which may be added to any subboard command allowing the selection of a range of items:

all: all items. For example, "Read all."

banner: for global commands, like RA and SA, show the subboard entry files. For example, "RA banner."

brandnew: only new items. Old items with new responses will not be matched. For example, "S brandnew."

by {user}: items posted or uploaded by a particular user. If used with the "mess" keyword, messages written by a particular user. {user} may be either an account number or a handle. If the handle contains spaces, do not forget to use quotation marks.

byme: items posted or uploaded by you. If used with the "mess" keyword, messages written by you.

favorite: items marked as sysop favorites. Sysop favorite items have "+" next to their item numbers on the Scan display. Sysop favorite status is toggled on and off using the AT command.

first (or ^): the first item in the subboard.

free: items marked as free downloads. Free download status is toggled using the AT command.

last (or $): the last item in the subboard.

mess: consider individual messages--items and responses together. Without this modifier, all commands operate on ranges of ITEMS, not messages. See the next section for more information.

new: only new posts, new files, AND old items which have new responses. For example, "Scan New" or its BBSMENU alias, "SN." To disregard old items with new responses, use "brandnew."

newresp: only old items with new responses. New posts and newfiles without responses will be disregarded.

next: if you finished reading or using a particular item, this will match the NEXT item on the list of items (current item plus 1).

pass: skip the "respond or pass" prompts when reading items. This can also be accomplished by using the "!" like "R2!."

preview: read one "old" response when reading old items with new responses. For example, if an item has 10 responses, 2 of them new, "Read New" will read only the last two responses. "Read New Preview" will read the last THREE responses. The BBSMENU abbreviation "RN" is by default set to "Read New Preview."

previous: if there was an item most currently read or manipulated, this will match the PREVIOUS item on the list of items (current item number minus 1).

private: only those items written with the PRIVATE flag set. This keyword does not work with the "mess" keyword.

reverse: process the range of items in REVERSE order. For example, "R1-10 Reverse" will begin reading with item 10, then 9, etc., down to 1.

since {date}: matches items posted or uploaded AFTER a given date. {date} has the format DATE-MONTH-YEAR. You may leave off the YEAR or BOTH the MONTH AND YEAR. CNet will default to the current YEAR and MONTH. This keyword works with the "mess" keyword. {date} can be a single NEGATIVE integer, representing an offset from the CURRENT date. "Read since -2" will read all messages posted within the last two days.

this (or current or .): match the most recently used item. For example, after "R2" "R this" will re-read item number 2.

to {user}: items posted or uploaded TO a particular user (the addressee). If used with the "mess" keyword, messages written to a particular user. {user} may be either an account number or a handle. If the handle contains spaces, do not forget to use quotation marks.

tome: items posted or uploaded TO you. If used with the "mess" keyword, messages written to you.

until {date}: matches items posted or uploaded BEFORE a given date. {date} has the format DATE-MONTH-YEAR. You may leave off the YEAR or BOTH the MONTH AND YEAR. CNet will default to the current YEAR and MONTH. This keyword works with the "mess" keyword. {date} can be a single NEGATIVE integer, representing an offset from the CURRENT date. "Read until -2" will read all messages not posted within the last two days.

unval: matches items which are unvalidated, undescribed, or unfinished. In other words, files for which users have not yet received credits.

'text': By placing text within single quotation marks (apostrophes), you can match only items which contain that text within their titles OR short descriptions. For example, "S 'txt'" will find all files with TXT in their titles or short descriptions. "SG 'txt'" can be a useful way to search the short descriptions of all files on all subboards.

Scanning and reading messages in "chronological" order

CNet uses a very rigid "item and response" format. Very rarely are individual messages (like responses) referred to. A special argument "mess" may be used with the Scan and Read commands to display in chronological order as they were entered into the subboard. Posts and responses are completely "unthreaded" and treated as equal entities. The Scan mess command will give the date, the author, the addressee, and the subject of each message. Each message (post or response) has its OWN "message number" which is a different animal from the arbitrary item numbering you see when you do a Scan (without mess). When you select to "Read 10", the tenth post (and its responses) from the scan list will be displayed. However, "Read mess 10" displays the 10th message (post or response) that was entered into the subboard. For example, "Scan mess until 1-6-93" will display the header information of all messages entered before June 1, 1993. "Read Mess 255" will read the 255th message.

The "mess" operator is especially useful in conjunction with the "to," "by," "tome," and "byme" operators. The "read tome" command will only read ITEMS which are addressed to you. If you want to read all MESSAGES (items AND responses) addressed to you, you can use "read mess tome." Of course the "mess" operator works well with other popular versions of the scan and read commands, like "RN mess tome" or "SG mess tome."

When reading messages, a limited capability "respond or pass" is given. It is possible to respond to the item, or post a new message at this prompt. If the message belongs to an item which has a file attached, the popular download, examine, grab, and * (select) commands will also be available.

Ratios, paybacks, and the file and byte credit systems

Each user's file has two fields, "file credits" and "byte credits." These are usually set to increase when the user uploads and decrease when the user downloads. These fields may ALSO be set to increase when another user downloads files that the user uploaded (this is called a "payback").

When an item will cost a certain number of file credits and byte credits to download, the user may not download that file unless he has at least those numbers of credits. All new users are given the an initial amount of file and byte credits as set on the CONFIG "defaults..." screen.

An item will require NO file or byte credits to download if the "free download" flag is set in the item's attributes (set using the AT command).

Each subboard has the fields "file cost to DLer(#)" and "byte cost to DLer(%)" (set from the EL command). Each item has the fields "file cost to DLer(#)" and "byte cost to DLer(#)." When an item is uploaded, the subboard's "file cost to DLer(#)" field is copied into the item's "file cost to DLer(#)" field. Also, a PERCENTAGE of the item's total size is copied into the item's "byte cost to DLer(#)" field. This percentage is given by the subboard's "byte cost to DLer(%)" field. When downloading, CNet will use the item's copies of these fields if the item's "these vals. override" flag is set to Yes. Otherwise, the subboard's values are used. NOTE that you can set the default value of the "these vals. override" flag for new uploads by setting the subboard's "def. item overrides" flag to Yes or No. NOTE that you may use the AT command at any time to change the "these vals. override" flag and then to manually change the number of file and byte credits required to download this file.

Each subboard has two fields, "upload file ratio#" and "upload byte ratio#." Each field may have a value between 0 and 3. When set to 0, uploaders will receive NO CREDITS. The values 1 to 3 correspond to the three "file credit ratios" and "byte credit ratios" that each user has in

his account. These credit ratios in the user's account actually control the number of credits the user receives for uploading--the subboard fields merely specify which of the user's ratios to use.

A file credit ratio of 0 means the user receives no file credits when he uploads. A file credit ratio of 1 means the user will receive 1 file credit for each file he uploads. A ratio of 2, 2 file credits per file uploaded, and so on. A byte credit ratio of 0 means the user receives no byte credits when he uploads. A byte credit ratio of 1 means the user will receive 1 byte credit for each byte be uploads. A ratio of 2, 2 byte credits per byte uploaded, and so on.

"Paybacks" provide a way of rewarding the uploader based on the number of times his uploads are actually downloaded by other users. They are actual credits added to the uploader's file and byte credit fields. You may actually choose to use this method of rewards IN PLACE of the ratio system, or in conjunction with it.

Each subboard has the fields "file payback (#)" and "byte payback (%)" (from the EL command). Each item has the fields "file payback to ULer(#)" and "byte payback to ULer(#)." When the item is uploaded, the subboard's "file payback (#)" field is copied into the item's "file payback to ULer(#)" field. Also, a PERCENTAGE of the item's total size is copied into the item's "byte payback to ULer(#)" field. This percentage is given by the subboard's "byte payback (%)" field. When downloading, CNet will use the item's copies of these fields if the item's "these vals. override" flag is set to Yes. Otherwise, the subboard's values are used. NOTE that you can set the default value of the "these vals. override" flag for new uploads by setting the subboard's "def. item overrides" flag to Yes or No. NOTE that you may use the AT command at any time to change the "these vals. override" flag and then to manually change the number of file and byte credits that the uploader will receive when this file is downloaded.

The total number of credits that the user received for the upload (through either ratios or paybacks) are stored in the item's "file credits to ULer" and "byte credits to ULer" fields (from the AT command). If the file is unvalidated by a sysop, or killed by the uploader, these credit values are subtracted from the user's file and byte credits.

Users will not receive rewards for downloading files that they uploaded.

Ways to kill, edit, or move existing items

Subboard operators and any user with the "kill/edit any file" privilege flag may use the "Kill" command to remove items from a subboard, or the "EDit" command to change the contents of a message. Users with the "kill/edit own files" privilege flag but without the "kill/edit any file" privilege flag may only use the "Kill" command to remove items posted or uploaded by them, and may only use the "EDit" command to change the contents of messages written by them.

When killing posts, one prompt is given to verify the kill. When killing files, one prompt is given to verify the kill, the file is deleted from the hard drive, and any upload credits received for the upload are removed. Options exist, however, if the user has the "kill/edit any file" privilege flag or is a subboard operator.

In the later case, the prompt "credit removal factor [0]" is given before kill verification. This variable will instruct CNet how to remove credits from the uploader. A value of 0 (or just pressing return) will not remove any upload credits received by the uploader for uploading the file. A value of 1 will remove the same number of credits that the user received when uploading the file. A value of 2 will remove twice the number of credits, and so on.

For subboard operators and users with the "kill/edit any file" privilege flag, the prompt "delete this file" also appears just after the "delete this post" prompt. Answering Yes to delete the post, but No to delete the file will result in the file being left on the hard drive as an "orphan." Answering No to delete the post, but Yes to delete the file will "transform" the file into a "post." This is a very useful feature when you wish to save the discussion about a file, but wish to delete the file itself.

The EDit command first prompts for a response number. The response number "0" means the "root" or "post" message. Sysops and subboard operators may change the

message's date. According to the same access restrictions that are used when posting or responding, users may change the anonymous or private status of a message, change the addressee, or change the alias.

The Kill and EDit commands may also be used from the item "respond or pass" prompts. At these prompts, the Kill and EDit commands default to the current item. A response number may be specified as an argument to Kill or EDit a specific response. The Kill command also accepts a RANGE of response numbers to kill.

NOTE that killed items are not actually PURGED from the subboard structures until auto-maintenance runs. Simply killing items will not make room for new items in a "full" subboard until auto-maintenance time.

Sysops and subboard operators can MOVE an item (or range of items) to another subboard by using the "MOve" command. When asked to choose a destination, you may choose a number from the current list of subboards, or use the "/" or ":" keys to move to the previous or top directory level, respectively. The "top" directory level consists of two subdirectories, the "message base" and the "upload base." This means that you are able to easily move posts and files between the message base and the upload base. You can "move" files to the SAME subboard for the purpose of changing the PARTITION that they are stored on. There are three other prompts given by the Move command.

"Move to which partition": a list of the available partitions is given, together with their available disk space. The default will be to use the first partition listed. If you are moving only posts (no files), just press ENTER at this prompt. Otherwise, select from the list.

"Re-new item post dates": Whether or not you want the item's post date to be updated to today's date. The affect that this will have is changing the item's position on the Scan list (when sorted chronologically), and causing the item to appear as "new" again to all users. The individual messages, when read, will retain their original dates.

"Kill source items": Whether to remove the originals. If

you are moving items between subboards, this allows you the opportunity to just "copy" them.

File validation

File validation provides the sysop or subboard operator with a way of "checking" uploads before they are made public. Depending on the circumstances under which you run your BBS, it may be wise to check for copyrighted or explicit material before allowing users to download new uploads. "Unvalidated" files must first be "validated" by a sysop or subboard operator before they may be downloaded. New uploads are marked as "unvalidated" if the subboard flag "file validation" is set to Yes, and the user's "skip file validation" privilege flag is set to No. "Unvalidated" files may only be "validated" by using the "Validate" command.

The Validate command may also be used to "unvalidate" files which have already been validated.

If the subboard flag "show unv. files" is set to No, the filename of unvalidated files is replaced with "‹ unvalidated› " when using the Scan or Browse command. If this flag is set to Yes, or a sysop or subboard operator uses the Scan or Browse command, filenames of unvalidated files are shown, however a letter "v" will appear next to the item number.

Upload credits are only awarded for validated files. The file must also be finished and described to receive upload credits. When the validate command is used to unvalidate a finished and described file, upload credits are removed from the uploader.

To remind users that upload credits are only awarded for validated files, the file "systext:validation" is displayed at the completion of an upload in a subboard where the "file validation" flag is set to Yes. You may edit this file to display any message you wish.

Downloading messages--the "yank-task"

Spending time on-line reading messages can be costly. Not only considering phone charges for the caller, it also ties up

the port so no other users can get on the system. CNet incorporates a very powerful "background task" called "yank-task." The "yank-task" can read messages and pack them into a downloadable file for offline reading, all while you are still on the BBS doing other things. This process is called "yanking" messages. Once a yank has been started, you will be returned to the BBS. When finished, Yank-task will inform you using an OLM (On-Line Message). If successful, the downloadable file will be placed into your select buffer (viewed using "SS" and downloaded using "DS"). You may log off and return to the BBS later to retrieve the yank file.

While you are in a subboard, the "Yank" command can be used in all ways that the "Read" command can be used. You can "Yank" any range of messages, or use the command "YN" to yank just the new messages. The "YA" command operates a little differently than the "RA" command, however. See the next section for a discussion of that.

There are actually TWO ways to yank messages. Your answer to the question "use QWK off-line reader format?" will determine which method of yanking is performed. If you select NOT to use the QWK format, yank-task will create an ASCII text file.

The text file that yank-task creates will have a filename consisting of the two letter "yank identifier" that you choose from the CONFIG program's "defaults..." screen, followed by the current month and date, and then a two digit number that increments each time you use yank-task on the same day. Yank-task will pack the text file using an archiver program if the user has chosen to use one from the "EP" command's "message bundling" field. Usually TXT (no packing), LHA, ARC, LZH, and ZOO are options to the user here. CNet determines which choices to give the users here based on which archivers have "pack formats" entered for them from the CONFIG program's "archivers..." screen.

The text file that yank-task creates can be read by using the "type" command from the Shell or by using an editor.

The QWK off-line reader format is a popular way of downloading messages. When yank-task uses the QWK

format, many files are produced, requiring that users MUST choose an archiver from the "EP" command's "message bundling" field. If this field is set to "TXT" (no archiver, just ASCII text), yank-task will be unable to produce a QWK packet. In order to make use of a file that is produced in the QWK off-line reader format, one must have a QWK off-line reader program. There are SEVERAL of these available for the Amiga. Although there are newer and more powerful programs, "Q-Blue" is one that was used in initial CNet QWK tests.

Aside from the fact that QWK provides better organization and better message reading features, the advantage of using QWK is that QWK readers allow the ability to REPLY to messages. New posts and even private mail can also be written off-line using these QWK reader programs. QWK readers use an archiver program to pack the replies into packets ending with "REP."

When the user again connects to the BBS, he may use the "QWK" command to upload his "REP" packets. CNet will unpack the file(s) and distribute the messages to their proper subboards automatically. In order for the QWK command to be available, you must designate a "QWK reply subboard" as described in the "edit/view subboard configuration" section.

The yank-task must assemble and pack messages into "temporary" files before making the packet available to the user. The path used to store these files is set using the CONFIG program's "yank/qwk packing" field within the "paths..." screen. If you have the memory, RAM: is recommended to make yank-task quicker and to reduce wear on your drives. The maximum amount of RAM required can be determined from the settings described below.

There are several ways to restrict user access to the yank-task. Each of these is found on the CONFIG program's "limits..." screen:

Maximum yanks: The maximum number of yank-tasks which CNet will allow to run simultaneously. This is primarily a function of your memory resources. Each

yank-task occupies memory for stack and variable space. In addition, if your yank-task is configured to use RAM: to store its temporary files, make sure there is enough space for each yank-task.

Maximum yank size (KB): This determines how MUCH a user can yank at one time. If you use RAM: to store your yank temporary files, you can multiply this value by the "maximum yanks" to determine how much memory could possibly be used. The next two fields determine how many of these files can exist on disk at one time, and how long they can exist before being automatically removed.

Days to hold user Yank files: Auto-maintenance is charged with the duty of removing yank-files that have not been "picked-up" before this designated maximum number of days. This feature protects your system from accumulating too many of these potentially very LARGE files.

Maximum yank files per user: Usually, one yank file per user is enough. The user may download one, and then yank again. This field exists so that you can make it possible for users to store more than one yank file in their select buffers at a time. Remember that each can potentially be "maximum yank size."

Determination of New items and responses

When you enter a subboard, CNet reports the number of "new posts," "new files," "new-response items" (items with new responses), and "new" messages addressed to you. How does CNet determine what is "new"? Intuitively, a "new" message or file would be one that you hadn't yet seen.

If CNet kept one bit of information for each message, for each user, the overhead associated with searching, sorting, and storing this information could quickly become overwhelming. Instead, CNet remembers two dates for each subboard, for each user. One date is used as a "cut-off" date. All messages written after this date are considered "new" to a user. The other date remembers when the user first entered the subboard during a given call. If, during a given call to the BBS, a user enters a particular

subboard, that subboard's "cut-off" date is replaced by that subboard's "first-entered" date when the user logs off. This means that when the user calls back and re-enters that subboard, everything that was written since he first entered the subboard on his previous call will be "new." This includes messages that he himself wrote into that subboard.

The practice of not updating the subboard's "cut-off" date until the user logs off keeps messages in that subboard "new" until the user logs off. However, CNet will only prompt the user to "read new messages now?" when entering a subboard for the FIRST time during a given call.

Exceptions to this method of tracking "new" messages are found in the "NM" command (described in the next section), and the "YA" command (yank new on all subboards). Once you have visited a subboard, or have used a global command like NM or YA to view messages in a subboard, the NM and YA commands will IMMEDIATELY "forget" about the new messages in that subboard. This feature was put in place primarily to allow users to "continue" a NM or YA if the previous one was cut short because of BBS limitations (like maximum size of Yank file).

When Scanning or Browsing items, "old" items that have new responses (these are called "new-response items") are shown with a asterisk (*) next to the date.

Scanning for new messages and files at logon

Each new user's "logon macro" is copied from the file CNET:BBSTEXT, line 10. By default, this line contains the command "NS." This will result in the "NS" (New Scan) command to be executed after the user has logged on. This command is actually usable from any command prompt, but was initially designed to be used at logon. The NS command is composed of two component commands, "NF" (new files) and "NM" (new messages). Each of these component commands is also usable individually from any command prompt.

The NF command searches for subboards containing new files. New files here are identified as those uploaded since the last use of the NF (or NS) command. CNet performs a

"Browse" of the new files in each subboard. For the duration of the call, the NF command will "remember" which files are currently "new." By default, these new files are "forgotten" for the NEXT call. At completion of the NF command, however, the user is given the option of "remembering" the new files for the next call.

The NM command searches for subboards containing new messages. New messages here are identified as those written since your last visit to the subboard. Once you have visited a subboard, or the NM command itself is used to view the new messages in a subboard, the new messages in that subboard will be "forgotton" by the NM command. This prevents NM from reading (or yanking) the same new messages twice. (Note that this works differently from the RN and RA commands, where messages are "remembered" until the next CALL.) However, if during your call, a user on another port writes a message into a subboard in which you have already read the new messages, the NM command will immediately again recognize this subboard as having a new message.

If one or more subboards is found to have new messages, a prompt is given with the following options:

List: List subboards with a summary of the number of new posts, the number of posts with new responses, and the number of new messages (posts and responses) addressed specifically to you.

Browse: Browse new items and items with new responses. Only new posts will be shown, not new files (unless the file has new responses). A RANGE of subboard numbers may be given as an argument.

Read: Read new items and items with new responses. Only new posts will be shown, not new files (unless the file has new responses). A RANGE of subboard numbers may be given as an argument.

Cancel: Immediately remove the "new" status of the subboard without first reading or browsing the messages. A RANGE of subboard numbers may be given as an argument.

Yank: Pack new messages for downloading. See the section concerning Yank for more information. One additional prompt is available when Yanking from the NM command. This prompt asks if you would like to "set

filters/keywords/subboards." The default answer to this question is No, and all new messages will be Yanked. If you select Yes, this allows you to yank only specific messages from specific subboards. A list of the subboards with new messages will be displayed, and a prompt containing the following commands will be given:

Abort: abort the yank, return to the NM prompt.
List: re-list the subboards.
Sub: toggle the yanking of subboards. Use a range of subboards following this command. Subboards "unselected" for yank will have the "+" that appears next to their names during a List become "-" instead.
Filter: select words or phrases which, if they appear in a message or its header, cause a particular message NOT to be yanked. If you choose NOT to have the filter apply to ALL subboards, you must again use the Filter command but with a range of subboards as an argument. Subboards which have the filter applied to them appear with an "f" next to their titles during a List.
Keyword: select words or phrases which MUST appear somewhere in a message or its header in order for that message to be yanked. If you choose NOT to have the filter apply to ALL subboards, you must again use the Keyword command but with a range of subboards as an argument. Subboards which have the keywords applied to them appear with a "k" next to their titles during a List.
Yank: begin the yank using the chosen filters, keywords, and subboards.

File integrity testing

Even when using 32-bit CRCs and error correcting modems, "corrupt" files sometimes end up in a subboard. Perhaps the file was corrupt before it was even transmitted, or perhaps it was upload-resumed, and contained some erroneous data at the end of the file before it was resumed.

Each file in a subboard has associated with it a field called "integrity check" (editable by using the AT command). The four possible states of this flag are "passed," "not tested," "not testable," and "test failed."

CNet uses the DOS archiver programs themselves to determine an archive's integrity. CNet issues a DOS

command to run the archiver program, and monitors the program's output. Depending on what is printed, CNet makes the determination as to whether the file is OK or not.

In order for a file type to be testable, that type (the file "extension", like .ARC or .SHAM) must be listed in the CONFIG program's "archivers" screen. In addition, that archiver's entry in the config screen must have values entered for the "test format," "test keyword," "keyword column," and "keyword line" fields. All of the popular file formats have already been entered for you into the default CNet configuration. To be able to actually test these file types, however, you must insure that the programs PKAX, UNARJ, HSCHK, LHA, WARPCK, UNZIP, ZOOM and ZOO are available from the Shell path. In case you change one of these archiver programs, update to a newer version of one of them, or wish to add your own file types to be tested, it is important that you understand how the four CONFIG fields must be set.

The "test format" will be used to construct the actual DOS command to test a file. For the ZOO file format, the test format is

```
zoo › %s xNd "%s"
```

"zoo" is the DOS name which invokes the archiver program. "› %s" is used internally by CNet to re-direct the output from the archiver program to a location where it is readable by CNet. NOTE that all test format lines contain this "› %s" immediately following the name of the archiver program--any added test formats MUST contain this argument. Next, you enter the arguments necessary to get the archiver program to test a file. The filename itself will be substituted where the second "%s" appears. To test the file "my.zoo" from the command shell you would use:

```
zoo xNd "my.zoo"
```

Therefore the CNet test format would be:

```
zoo › %s xNd "%s"
```

The quotations around the second %s (where the filename will be substituted) are there in case the filename or path contains a space.

You must actually look at the archiver's output for a GOOD archive to determine the values of the next three fields. If these fields are not PRECISELY set, CNet will report "failed" when in fact the archive may be OK. The ZOO program gives output like this:

```
zoo: my.file          --- OK
zoo: archive seems OK.
```

The "test keyword" field tells CNet what word or phrase it should be looking for in the archiver program's output to signal a GOOD archive. For ZOO, the test keyword is best set to "OK".

The "keyword line" field tells CNet on which line of output to look for the "test keyword." The output "lines" are numbered in REVERSE here. The LAST line of output is known to CNet as line 0. The next to last line is 1. It is valid to specify a number as high as 3 here. For ZOO, the keyword line should be set to 0, because "OK" appears on the last line of output.

The "keyword column" tells CNet at which column on the keyword line to expect the test keyword. Start counting at 0. For the ZOO program, the "OK" appears at column 20. Notice that there are TWO spaces between "zoo:" and "archive."

File testing either occurs immediately after the file is uploaded, during auto-maintenance, or not at all, depending on the subboard's setting of its "file testing" field. A file may be "manually" tested by a sysop or subboard operator by using the "TEst" command. Files which FAIL the integrity check are marked as "(failed integrity check)" when they are read. They are marked with a "!" beside the item number when they are displayed in an item scan. They also appear in the auto-maintenance log (the sysop "LA" command). Testable files which have not yet been tested are marked as "(not yet tested)" when they are read.

File transformation

When you request that your users always upload ".LHA" files into your Amiga subboards, ".ZIP" files into your IBM subboards, and ".IFF" files into your clip-art subboards,

should you always expect your users to follow your directions? It's not going to happen. Luckily, CNet comes equipped with a mechanism for overseeing the TRANSFORMATION of files from one "type" to another (.ZIP to .LHA for example, or the reverse).

CNet "transforms" files by using specially constructed DOS script files (files containing a "batch" of DOS commands), called "xscripts". These script files must use one archiver program (pkunzip, for example) to disassemble an archived file, and then use another archiver program (lha for example) to re-assemble the archive from its component files. Properly written transformation script files should also deal with error checking, temporary file cleanup, and proper operation within a multi-user environment.

Note: Transformation may be used for many things other than simply changing one archive type into another. For example, there are many utility programs available for changing one graphic format into another. Using this, you could create an Xscript to change GIF graphic files into IFF, as just one example.

By default, CNet will attempt to find transformation script files for all file types. You may prevent a subboard from attempting to transform specific file types by setting the subboard's "arcs transformable" field. The numbers in this field refer to the numbering of the archivers in CONFIG's "archivers..." screen. If a user uploads a file which is on CONFIG's list of archivers, but whose number does NOT appear in the subboard's "arcs transformable" field, CNet will NOT attempt to transform the file. On the other hand, if a user uploads a file which is NOT on CONFIG's list of archivers, CNet will always attempt to transform that file. (Unless file transformation is disabled in that subboard)

How does CNet decide which script file to use when attempting to transform a file? To begin with, each subboard has a field called "transform to." You should set this field to the 2, 3, or 4 letter file extension to which you would first like CNet to attempt to transform all files. Do not include the "." in this field.

CNet first searches for the most specific transformation file (one which would transform the file from the existing file

type to the "transform to" type), and if not found, looks for progressively more general transformation files. If the file does not have a 2 to 5 letter extension (the letters following a period), CNet assigns it the default extension of "any."

Here's the order in which CNet searches for a transformation file. The word "old" is replaced with the file's current extension (or "any" if the file does not have an extension). The word "new" is replaced with the subboard's "transform to" field. The "data" directory refers to the subboard's own "data" subdirectory, found within it's "path to data dir" path. Once a file is found, the search ends, and CNet attempts to execute the transformation file:

directory	script name
data	old2new
data	old2old
S:	old2new
S:	old2old
data	old2#?

The last script search attempts to find ANY script file which will operate on the existing file type.

File transformation either occurs immediately after the file is uploaded, during auto-maintenance, or not at all, depending on the subboard's setting of its "file transformation" field. A file may be "manually" transformed by a sysop or subboard operator by using the "TRansform" command. Files successfully transformed appear in the auto-maintenance log (the sysop "LA" command), showing both the "new" and the "old" file sizes.

Each item has a field "transform attempted" which is set to "yes" after CNet attempts to run a transformation script for the file. You can edit this flag by using the "AT" command. Once this flag is set to "yes," auto-maintenance will not attempt to transform the file again. By setting this flag to "no," you can force auto-maintenance to attempt to transform the file again. The transformation script will not be ran if the file with the "new" extension already exists in the subboard.

There is a directory on the master CNet disk entitled "xscripts." Within this directory are examples of transformation scripts. Note that CNet does NOT look in the "xscripts" directory to find them. If you choose to use one of these files, you must COPY it to the appropriate directory (either S: or the subboard's "data" directory). Although tested and working, many of these script files contain minimal error checking and recovery--they are included to provide examples. If you plan to improve upon CNet's default transformation scripts, or plan to write your own transformation scripts, it is helpful to know what CNet passes to the script file as "arguments." There are three arguments:

1. The "new" filename, with new extension attached, including the full path.
2. The "old" filename, exactly as it was uploaded, including the full path.
3. The "core" filename, without an extension or path.

There are DOS script commands for extracting and making use of these arguments.

Note that byte payback and byte credit values for the item are automatically re-adjusted for the item's new size if the item's size changes during transformation. Other variables already that are already binding may NOT be altered, however (such as the byte credits that the user has already received if the file was immediately validated).

Subboard file structure and fragmentation considerations

The subboard's data path should contain a directory "data" (this should have been automatically created for you when you originally created the subboard). Once messages are posted or files uploaded, you will see one or more of the following files:

_text: Contains all posts and responses. This file will "grow" in 65536 (64K) increments as necessary to house new messages. Killed message areas are tracked so that new messages first attempt to fill space once occupied by those killed messages. The "fit" of new messages is not always perfect, resulting inevitably in fragmentation of the

file structure. There are ways, are described below, to periodically "clean" this file and remove and fragmentation.

_free: Contains structures to track the "killed" portions of _text. This file exists at all times, except after the subboard reorganization program is used, until there is another message created.

_headers3: Contains BRIEF information about each item in the subboard. Just enough information to determine if there are new responses to the item and to sort the items by date or title. This file's purpose is to allow fast item indexing and retrieval. If you have set "keep headers" to "headers," this file will be kept in memory after the subboard is first accessed. If you have some extra memory, it is recommended that you do keep these small files in memory.

_items3: Contains DETAILED information about each item in the subboard--full title, creation information, flags, etc. Portions of this file are loading on an as-needed basis by the BBS. If you set "keep headers" to "headers and items," this file will also be kept in memory after the subboard is first accessed.

_message3: Contains a short data structure for each MESSAGE in the subboard (items and responses individually). This provides quick indexing by message author and addressee (as used in the "Scan MESS" command).

_short2: This file contains the short descriptions for uploaded file items, if any exist.

Continuous posting, responding, uploading, and killing will eventually result in fragmentation of the _text file. The _text and _free files will become much larger than necessary, simply because of "short blocks" of free space which are left unused. To fix this problem, CNet has a utility known as "repair_sub" located in pfiles:maintenance. To invoke this program from the current subboard, use the RR command. If you have enough memory to hold the new _text file in memory, you should answer "yes" when asked if you would like to use RAM during the repair process.

Repair_sub is also handy in the event that your subboard has suffered some sort of damage (from whatever cause). If you notice responses "looping" or titles or headers filled with "garbage," it might be a good time to use the RR command. Repair_sub will attempt to salvage all non-corrupt messages, purging the others.

Repair_sub can be run as a system event as well. It is a "CNet C" pfile, and takes one argument, the RANGE of subboards to operate on (the PHYSICAL subboard numbers, as displayed from the subboard's EL command). It is OK to include physical subboard numbers which correspond to direct disk access subboards or subdirectories, repair_sub will skip them. So, for example, if you want repair_sub to repair all of your subboards on the first of every month at 3 am, add a system event with the date set to "1," the time set to "300," the command set to "Run CNet C" and the arguments set to "pfiles:maintenance/repair_sub 0-255" (replace the number 255 with your highest physical subboard number, as taken from CONFIG's "max UD/BASE subboards" setting). If you want repair_sub to operate on only specific subboards, use a range of those subboard numbers separated by commas.

Other subboard maintenance options and considerations

As messages are posted, they are assigned a serial number unique to that subboard. This serial number is essential to the proper look-up and indexing used by various commands. Normally, this serial number is automatically incremented as necessary. If, however, you do any direct manipulation of subboard data files, such as moving all data files from one subboard to another, you should consider this serial number. It is shown as "last message serial number" on the EL screen. It is OK to set this number HIGHER than it should be. It is NOT a good idea to have this number LOWER than it should be, as serial numbers will then be repeating, causing confusion.

Another thing to be aware of is that when items are killed, they are not purged from the subboard data structures until auto-maintenance (amaint) runs. Thus, if a subboard is full (maximum number of items reached), simply killing an

item will NOT alone make room for a new one--amaint must first operate. Furthermore, in order for amaint to operate, it needs exclusive access to the subboard. If there are users in a subboard when amaint attempts to lock it, amaint will skip that subboard. If users attempt to enter a subboard while it is locked by amaint, they will be told that the subboard is temporarily locked.

Amaint is also responsible for the execution of many other subboard options. The "amaint inactive days" setting is used by amaint to purge old items automatically after a given number of days of inactivity. To be considered "active" a file must have been downloaded, and a post must have been responded to within the specified number of days. In the case of network subboards, amaint uses for comparison the date the message was "imported" to your system, not the date that the actual message was written.

The "auto-free after days" setting is used by amaint to give items "free" status automatically after a given number of days since uploading.

File testing and transformation occur during amaint, unless you have the flags set differently for the subboard.

The "purge old responses" flag causes amaint to delete old responses from items, even though the items themselves might be considered "active." This feature uses the same "amaint inactive days" in determining which responses are killed.

By setting the "amaint adopt orphans" flag, you can have amaint automatically search the subboard's partitions for orphan files, and add them to the subboard. This could be a handy feature in the case of fidonet file networking.

By setting the "default purge status" flag to "@Amaint", you can have all new posts and responses immediately marked for deletion at the next run of amaint. This might be useful for "temporary" file transfer areas. Another use of this flag is in private file transfer bases where it would be appropriate to purge the item at download (a setting of "@DL"). The item is not immediately killed, but its status is changed to "@Amaint" and actual deletion happens then.

Notes:

CHAPTER 10 - The Text Editors

In many ways, life on a BBS REVOLVES around its text editors. An editor is the tool you use to "input" messages, descriptions, and configuration files while on the BBS. CNet has two built-in message editors and one built-in "ANSI" editor. Using the CONFIG program's "editors..." screen, you can add "external" (stand-alone) editors. Consult the CONFIG chapter for more information on this procedure. This chapter will describe CNet's built-in editors, and CNet's powerul Message Command Interpreter (MCI).

A user may choose his default editor using the EP command. The default maximum number of lines of text that a user may enter in the editor depends on the user's "editor lines" field. However, many BBS features have their own (lower) limitations on editor lines.

The Line Editor

The oldest and most basic of editors is the "line editor." This is the DEFAULT editor for new users. To use this editor, users may use "dumb" terminals--terminals or terminal emulation programs which do not understand cursor positioning, text manipulation, or other "ANSI" commands. There is never a need to even TOUCH the "control" key.

Whether posting, responding, leaving mail or feedback, describing a file, or editing the user dictionary or network alias list, a user is in the line editor when he sees:

```
CNet/3 LineEditor:
Enter up to 250 lines--enter .H at column 1 for Help, or .S to Save.
Only press ENTER when beginning a new paragraph.
```

At this point, you may type freely, using the TAB, ENTER and BACKSPACE keys to do simple formatting and error correction. Word wrapping within paragraphs is done automatically. When you are done, make sure you are at the beginning of a new line, and then press the PERIOD key (.) then the letter S, and then press ENTER. That's the easy way to enter text. However, there are dozens of other "dot" commands available to perform convenient functions. They are called "dot" commands because they all begin by pressing a PERIOD at the beginning of a new line.

To actually place a period into the text at the beginning of a line, type a second period. The prompt will be replaced by a period.

For most commands, especially those that will irreverisbly alter text, the Editor will wait for you to press ENTER before it actually does anything. This give you the opportunity to cancel the command by pressing the backspace key.

Here are descriptions of the available dot commands. The "defaults" given are what happens when you use the command with no additional argument:

.A Abort. All new text and changes will be lost!

.B Border. Put any character around the text--above, below, and on both sides. This command is really only useful on pre-centered, non-word-wrapped text. Using it in any other way may cause characters to be chopped from the ends of lines.

.C Copy. The range of lines that you specify will be copied to the end of the text. If you are in insert mode (.I), the lines will be copied to the insert point. This command defaults to ALL lines.

.D Delete. The range of lines that you specify will be removed from the text. This command defaults to the LAST line.

.E Edit. You will be given the chance to re-enter each line that you specify. Hitting ENTER on a blank line will keep the line as-is. You can use the .X command to get out of edit mode. This command defaults to the LAST line.

.F Find. After you enter a range of lines, you will be prompted for a phrase to locate. The phrase may not be broken between two lines. The line editor will report the line number(s) where the phrase appears and the number of occurrences on each line. The search is not case sensitive. This command defaults to ALL lines.

.G Get. Sysops may use this command to specify a

path and filename to read into the editor. Text will be inserted at the end of the text, or at the insert point if insert mode is active (.I).

.H Help. Display a brief summary of commands.

.I Insert. Enter the line number where you wish to begin inserting text. If you do not specify a line number, inserting will occur at the BEGINNING of text.

.J Justify. Several types of justification are supported:
"Pack" removes extra spaces.
"Expand" will add spaces between words to make lines 'flush' with the left and right margins.
"Indent" adds a space to beginning of lines.
"Un-indent" removes a space.
"Center" moves lines to the middle of the screen.
"Left" removes all spaces from the beginning of lines.
"Right" adds spaces to the beginning of lines until text is flush against the right margin.

.K Replace. This command operates exactly like Edit, except that pressing ENTER on a blank line will ERASE that line.

.L List. Display lines of text with line numbers. MCI commands are not interpretted here. This command defaults to ALL lines.

.M MCI read. Display the text exactly as it will appear to people reading the message. All MCI is interpretted, and a header is displayed. This command defaults to ALL lines.

.N New. All text and changes will be lost! The editor will be re-started.

.O Line numbers. Toggle the display of line number prompts on and off.

.P Put. A sysop may specify a path and filename to which to save the text. If the specified path begins with a "+" CNet will APPEND the text if a file already exists with the given name.

.Q Quote. If you are replying to a message, the Quote command will allow you to insert lines from the original message into your reply. The initials of the original message's author will be placed at the beginning of each quoted line.

.R Read. Display text using word wrapping. Line numbers are not displayed. MCI commands are NOT interpretted. This command defaults to ALL lines.

.S Save. Use this command to save the text (send the message) when you are ready to accept what you have entered.

.T Toggle. Add or remove the "carriage returns" from the ends of lines. CNet remembers where you pressed the ENTER key. When you use the List command, the "\" character will show at the ends of lines where you pressed ENTER. See the discussion of paragraph formatting to follow.

.V Visual. Move to the visual editor. Remote callers must be using an ANSI terminal with 80 columns width. See the section about the visual editor to follow.

.W Word-wrap. Turn off or turn back on the automatic word wrapping feature. Without word-wrapping, you must press ENTER to reach the next line. All lines will then be marked as having carriage returns.

.Z Zip. Send a text file to the BBS using an error checking "ZIP" file transfer protocol. Although it is possible to simply "dump" a terminal program's buffer directly into the editor, problems with word-wrapping arise and may cause "garbage" to appear. The Zip command allows you to use Xmodem or ASCII protocol to bring a file safely into the editor.

.› Margin. This command can be used to temporarily alter the right margin used for text entry, justification, and borders.

.$ Search and replace. This command operates similarly to Find, except there is one additional prompt for

the "replace with" text. CNet will only be able to replace text on lines with enough room (if the replace text is longer than the search text).

.* Command. Allows the user to enter any of the "available anywhere" BBS commands like WHO, STATUS, TIME, OLM, etc. without closing the document or leaving the editor.

Automatic Paragraph Formatting System

One very important concept to be aware of while in the editor is how CNet handles paragraphs. CNet has been designed to automatically format messages for the current user's column width to avoid broken words at the end of lines, regardless of how the message was written. In order for CNet to effectively accomplish this, it must know where your paragraph breaks are. If you are at the end of a line and have not finished a paragraph, continue to type, and C-Net will automatically "wrap" your word to the next line. Only press the ENTER key when you are about to begin a new paragraph. You can manually alter paragraph boundaries by using the .T command. You can view the position of existing paragraph boundaries by using the .L command.

Experiment by entering a couple of short lines, maybe one or two words each. Use the .T command to remove their paragraph markers. Read the message. Notice how CNet will "pack" text to fill the screen.

This system was originally designed to account for the differences between the old 40 and 80 column screens. Now that 80 column terminals have become prevalent, there are still many benefits of the automatic paragraph formatting system. For example, automatically indented text will always appear correct. The paragraph boundary markers are also essential to the operation of the visual editor.

Control Keys

Although it is possible to get around in the line editor without ever touching the control key, advanced users will appreciate knowing that several control key commands DO

exist here. (^ just reminds you to hold the control key before pressing the command letter).

^B Move to the beginning of the line
^N Move to the end of the line
^D Delete character under cursor
^K Delete to the end of line
^T Move left 1 character
^U Move right 1 character
^W Move left 1 word
^R Move right 1 word
^V Verify (reprint) text so far
^X Cancel line (start over)

The Visual Editor

CNet's visual editor was designed to provide "word-processor-like" power to on-line editing. The visual editor requires ANSI terminal support of cursor movement, cursor positioning, and simple text insertion and deletion commands. The visual editor should be used only with an 80 column display, but can used with any number of screen rows (make sure your setting in the ET command matches your actual terminal size). The visual editor supports full paragraph formatting and wrapping automatically. The visual editor shows you the subject and the addressee (if there is one) at the top of the page. On the local console screen, the visual editor shows you the cursor row and column position.

To get to the visual editor from the line editor, use the line editor's .V command. To set the visual editor as your default editor, use the EP command.

All visual editor commands are CONTROL commands, and are accessed by holding down the control key and then pressing the appropriate command letter. Control keys are shown as having "^" before the command letter. Many of the visual editor's commands have their own menus, and require you to press an additional key. In all cases, this secondary key is NOT a control key. The commands are as follows:

^A: Page up.

^B: Beginning of line.

^C: Command. Enter a BBS command. The command must be a "global" command like WHO, OLM, TIME, etc.

^K: Kill from the cursor to the end of the line.

^N: End of line.

^O: Bottom of document.

^P: Preview. Read your message with MCI interpretation and message header, exactly as it will appear when read by other users.

^R M: Range/Mark. Set the beginning point for Copy, Kill, and Paste.

^R C: Range/Copy. Copy the text between the last marked point and the current cursor position into the Paste buffer.

^R K: Range/Kill. Delete the text between the last marked point and the current cursor position. The text will also be copied into the Paste buffer.

^R P: Range/Paste. Insert the paste buffer at the current cursor position. The paste buffer contains what was last Copied or Killed.

^S: Search. Case is not important here. The visual editor will remember what was last searched for and use that as a default search string.

^U. Top of document. If the cursor is not already at the top of the screen, the first use of control-U will move the cursor to the top of the screen.

^V: Verify screen. Re-send current screen.

^X A: Abort. A verification prompt is given. All text and changes will be lost.

^X C: Check spelling. In order for the spelling checker to function, the files "dict" and "dict.index" must be found in the dictionary-path as specified from the CONFIG program's "paths..." screen. If you have the RAM to spare, it is highly recommended that you place the dictionary files and dictionary path in RAM. Two maintenance programs "dict_expand" and "dict_pack" have been provided. Used from the Shell, these programs can be used to unpack and pack the "dict" file, allowing permanent customization. CNet's spelling checker offers a "guess" function utilizing the SoundEx routines. The spelling checker also has the ability to "learn" into user custom dictionaries. Users may edit their custom dictionaries by using the EP command. You may control the number of words each user may "learn" by changing the user field "dictionary entries."

^X D: Draw editor. A simple ANSI sequence editor. Described in the next section.

^X G: Get. System operators may use this command to read a file into the editor from any path and filename.

^X H: Help. A one-page summary of the visual editor's commands.

^X L: Line editor. Return to the line editor.

^X N: New. Option to re-start the visual editor. All text and changes will be lost.

^X P: Put. System operators may use this command to save the editor's text into any file in any path.

^X Q: Quote. If you are replying to a message, this command can be used to insert the original text into the editor at the current cursor position. If you are responding to a post, you are prompted for the response number you are quoting (the default is the one you've most recently read). Each "quoted" line will begin with the initials of the original message's

author. Because CNet normally displays messages in subject order, it is usually NOT a good idea to quote the entire message. Once the message has been inserted, use the control-K command to selectively kill lines.

^X S: Save. Accept what you have written and enter it into the BBS.

^X Z: Zip. Use Xmodem or ASCII protocol to insert text into the editor.

^Z: Page down.

CNet's visual editor was designed to take advantage of all of the ANSI specification's efficient text manipulation commands for insertion and deletion. If your terminal program can also take advantage of the full power of ANSI, use the ET command to make sure "ANSI support" is set to "full." If, on the other hand, your terminal program does not "know" the more efficient ANSI text commands (you will know this if the visual editor appears to operate incorrectly), then use the ET command to set "ANSI support" to "simple."

The Draw Editor

The draw editor provides CNet with a simple yet powerful built-in "ANSI sequence" editor. The draw editor may be used to design menus, screens displays, and other drawings. The two basic features of the draw editor are WYSIWYG and sequencing. WYSIWYG or "what you see is what you get" means that you can change colors and text attributes and position the cursor in any way you like, knowing that how you see the screen is exactly the way users will see the screen when reading the draw editor file. MCI commands and "preview" modes are not necessary to re-create actual viewing circumstances. Sequencing means that the draw editor remembers the ORDER in which you create the screen, and re-draws the screen in exactly that order when the file is displayed. This means that "animation" is possible and easy to create with the draw editor. To animate something, draw it, draw it again in its new position, then use the space bar to "erase" the first drawing.

When using a local port, the total number of sequence steps is shown at the top of the screen. Also, because it is possible to move through the sequence steps individually, the "current" sequence step number is also shown.

There are a number of control key commands available in the draw editor. Control keys are shown as having "^" before the command letter. Many of the draw editor's commands have their own menus, and require you to press an additional key. In all cases, this secondary key is NOT a control key. The commands are as follows:

^A: Move BACK one step. When "undoing" a step, CNet has a "memory" of what was replaced at that screen position. Note that when you are not at the final sequence step, all new steps are "inserted" into the sequence.

^K: Kill. Delete all steps after the current step. That is, make the current step the LAST step in the sequence.

^N: "Shift" in and out. When the draw editor is "shifted-in," the high bit of every typed key is set. This "re-maps" the keyboard to allow you to enter graphic and symbol characters.

^P: Play. The sequence is re-drawn from the beginning. You are prompted for a DELAY between steps. This allows you to "slow things down" to get a better view of what is happening. You are also prompted for a final step number. This allows you to "set" the "current" step number.

^T: Text. Change the attributes of new steps. A menu appears with the options Bold, Intense, Reverse, Underline, Color, Field, and Normal. Bold, intense, reverse, and underline toggle between Yes and No. Color and field allow you to set the foreground and background colors, respectively, to a value ranging from 0 to 7. Normal allows you to instantly set bold, intense, reverse, and underline all to No.

^V: Verify. Re-display the current display as quickly as possible.

^X A: Abort. Exit without saving changes.

^X H: Help. Provide a one page quick summary of all commands.

^X S: Save. Save changes and exit the draw editor. An option is given to use "absolute" cursor positioning. Absolute cursor position means that the exact X and Y coordinates of steps will be saved to the file. If absolute positioning is not used, positioning will be performed "relative" to the each current cursor position. That is, the "distance to move" between steps in the X and Y directions will be saved to the file. If you are designing an entire-screen display, you will want to use absolute cursor positioning. Selecting absolute cursor positioning will also automatically clear the screen at the beginning of the sequence. If you want text and animation that will "flow" with what is currently on a screen, you want to use relative cursor positioning. Selecting relative cursor positioning does NOT clear the screen before displaying the sequence.

^Z: Move FORWARD one step in the sequence.

The Message Command Interpreter (MCI)

The Message Command Interpreter (MCI) is one of C-Net's more powerful features. It allows users to insert "command sequences" directly into messages. These command sequences are interpreted by CNet when the message is later read. These commands include changing colors, moving the cursor, and many other useful utilities.

In CNet/3, MCI commands begin with CONTROL-Q. When you press CONTROL-Q in the editor, CNet will print the character "{" (a left curly brace). Immediately following this, you must place the desired MCI command character, then the appropriate arguments, ending the command with the character "}" (a right curly brace). For example, {c1} will change the text output color to Red.

In order to maintain some visual continuity with older versions of CNet, you may optionally use the CONTROL-Y key to display a special character "\". Following the \ character, you MUST place a command

letter and an argument character. For example, instead of {c1}, \c1 can be used to change the text output color to Red.

NOTE: Remember that the { and \ characters in MCI commands are produced using the special keys CONTROL-Q and CONTROL-Y, NOT the actual \ and { keys on the keyboard!

Access to MCI commands is divided into three categories: SYSOP ONLY, LEVEL 1, and LEVEL 2. Access to sysop-only commands requires the system operator privilege flag. Access to level 1 and level 2 commands requires the "MCI level 1" or "MCI level 2" privilege flag, respectively. Two lines in BBSTEXT are used to determine which commands belong to which "level." BBSTEXT line 4 contains commands which are "sysop only." BBSTEXT line 5 contains commands which are "level 2." All other commands are then by default "level 1." In the descriptions to follow, the commands which are by default level 2 are marked with "(2)" and the commands which are by default sysop-only are marked "(s)".

Within the editor, users are able to enter any MCI command they wish. Once an MCI command is entered, CNet will check the user's access. If the user does not have access to that MCI command, CNet will change the control-Q to an actual text "{" or the control-Y to a "\". In this way, the command will not be interpretted, but will still appear visually the same as the "real thing".

Following are the MCI commands:

{@n} Set MCI environment variables
- n= 0 reset MCI environment settings (except n=8)
- n= 1 disable further MCI interpretation (all codes PRINTED)
- n= 2 disable word wrap-around
- n= 4 disable the More? pause temporarily
- n= 8 disable sysop-only MCI commands (cannot be reset)
- n=32 ENABLE SkyPix pseudo-ANSI commands
- n=64 DISABLE Text Translation (use when sending system-specific text files, like C64/128 screens). Screen output, MCI, and ALL formatting is suppressed.

To set multiple items, add their values (for 1,2,4, use 7). All codes are reset at the end of the current file or message.

{:n} Set the automatic indentation of text
n= 0 disable indentation altogether
n= 1 return to default indentation (sysop defined)
n= 2 set indentation to occur at the current cursor position

{An} Disable message abortion using the SpaceBar or the / key. (s)

{Bn} Print n Bells (beeps)

{Cn} Change the cursor color to #n.
0=black 1=red 2=green 3=yellow 4=blue
5=purple 6=cyan 7=white

Color codes 8,9,a,b,c,d,e, & f are INTENSE versions of the first 8 ... visible on 16 color terminals only.

{F0} Move cursor to home position
{F1} Move cursor to home position and clear screen

{Gn} Wait for a key press. The key will be placed into MCI string variable n (70+n). (2)

{Hn} Print n backspaces.

{In m} Input a line. Result will ALWAYS be placed in variable 70. (2) n= input options (may be summed)

n =	1	all caps
n =	2	FILENAME ... don't allow =:;"/*
n =	8	chop leading spaces
n =	16	force 1st letter of each word uppercase
n =	32	force all others letters lower case
n =	64	numeric input only
n =	128	print input box (.)
n =	256	allow MCI control-A/C
n =	512	HANDLES ... don't allow ^_'{|}~@
n =	16384	Don't allow spaces
n =	32768	Don't allow cursor movement

m = length of input (default is 40).

{JA n} Jump to label #n unconditionally.
{JE n} Jump to label #n if last TEST was EQUAL.
{JG n} Jump to label #n if GREATER THAN.
{JL n} Jump to label #n if LESS THAN.
{JN n} Jump to label #n if NOT EQUAL.

By specifying a label which does not EXIST, it is possible to effectively EXIT the message.

{n} An MCI command which consists only of a NUMBER is a LABEL. LABELS are used to "mark a spot" in a message. LABELS are used with the MCI "Jump" commands above.

It is legal to jump "backward" to the 20 most recent labels. The reverse branching will only be effective when the message is READ FROM DISK, and will not occur when reading the message in an editor.

By placing the special character + after the label number (like {JA 2+}), it is possible to force CNet to only branch forward. This is useful in situations where you re-use the same label number.

{Kn} Kolorific mode on/off. When enabled, the text color will be changed automatically as each character is printed.

{Ln m} Load the variable specified by 'n' with contents of 'm'. N and m may be any legal GETUSER specifications. M may also be a "literal" by placing the special character # before text or numbers. (s)

{L60 61} Copy contents of register 1 into 0
{L21 #100} Set user's game points to 100

Use EXTREME caution with this command. Memory can easily be corrupted to the point of system failure if used indiscriminately.

{Mn x..} Perform MATH functions on the variable specified by n. This MCI command can be used to add, subtract, multiply, divide, and mod (find remainder). Arguments may be variables, literals, or one of the special characters +, -, /, *, or %. (s)

Arguments must be entered in RPN, Reverse Polish Notation. That is, specify the operands, and THEN the operators.

{M60 #1 +} Add 1 to MCI register 0
{M60 24 #3 / +} Add 1/3 of the current CPS rate to reg 0

Calculate your gas mileage without leaving the editor!

{Nn} Print n NewLines

{On} Set FLASHing text (Commodore C/G) or BOLD text (ANSI)

{Pn} Set Print Direction.
n=0 normal printing
n=1 print each character, backspace, then the character again
n=2 print upward
n=3 print downward
n=4 print backwards

{Q0} Re-send all current ANSI settings
{Q1} Cancel all active MCI modes (colors/printmodes, etc).
{Q2} Remember current ANSI settings
{Q3} Recall last remembered ANSI settings

{Rn} Set REVERSE video on/off

{Sn} Set the number of 1/50 seconds to pause between characters. (2)

{Tn m}Test a variable or literal against another. Results may be interpreted using the {J} commands. N and m may be any legal GETUSER specification, as detailed under the {V} command. (s)

In addition, you may specify "literal" text or numbers by using the special character #. Here are some examples:

{T60 61} Compare the MCI numeric register 0 with register 1.

{T60 #1} Compare the MCI numeric register 0 to the number '1'
{T70 #Y} Compare the MCI string register 0 with "Y"

When comparing strings, variables are compared case-insensitive. Also, the special character ' may be used IN PLACE of # to determine whether one variable appears within (instr()) another, instead of strict equality.

{Un} Set underline mode on/off.

{Vn s} Display a system variable. N may be any valid GETUSER specification. The special numbers 60-69 correspond to the MCI numeric registers. The special numbers 70-74 correspond to the MCI string registers. (s)

If the optional argument 's' is specified, it must be of the form %n.ms ... a 'C' style format command. Alternately, 's' may be the special character 'c' followed by a field width. The variable will be displayed CENTERED within a field of spaces of the specified width.

{Wn} Wait for n seconds to pass. (2)

{XM n} Replace MCI character register 0 (70) beginning with its nth character. Similar to BASIC MID$(). (s)
{XL n} Replace MCI character register 0 with its leftmost n characters. Similar to BASIC LEFT$(). (s)
{XR n} Replace MCI character register 0 with its rightmost n characters. Similar to BASIC RIGHT$(). (s)
{XP} Replace MCI character registers 0 and 1 with the PARSED version of MCI character register 0. Text is parsed at the first space. (s)
{XS} Store the SIZE (strlen()) of MCI character register 0 into MCI numeric register 0 (60). (s)

{Zn} ANSI users, change Background color to n (same as C colors).

{^n} Move cursor up n lines.

{!n} Move cursor down n lines.

{› n} Move cursor to the right n spaces.

{‹ n} Move cursor to the left n spaces.

{-n} Insert n characters at cursor position.

{*n f} Display file with path/name given by f. 'n' will be OR'ed with the current MCI environment (see '@'). (s)

{#n f} Run a program file with path/name given by f. (s)
n=0 for an AREXX program,
n=1 for AREXX w/exclusive access.
n=2 for a CNet C program,
n=3 for C w/exclusive access.
n=4 for a DOS program
n=5 for DOS w/exclusive access.
n=6 for a Paragon program
n=7 for Paragon w/exclusive access.

{$ f} Send AmigaDOS command specified by f. (s)

{+ s} Write string specified by 's' to the call log. (s)

{& s} Perform BBS command specified by 's' ... must a 'system' command like Time, Who, Chat, etc. (s)

{% d} Set the user's time remaining to 0 (hang-up) if the current date is less than the date specified by 'd' in the format dd-mm-yy. (s)

{?n} Wait for a Yes or No response (used in BBSTEXT for prompt lines) n=0 for default [No], n=1 for default [Yes]. The response is ALSO placed in MCI string register 0 (variable 70) as "1" or "0". (s)

{=n} May be used to replace {?n} in BBSTEXT. Lines which contain {?0} or {?1} in BBSTEXT are prompts for Yes/No answers, with defaults of No and Yes, respectively. You may FORCE an answer using this command. {=0} will skip the prompt, automatically returning "No" to Cnet. {=1} will skip the prompt, automatically returning "Yes" to CNet. (s)

The Visual Data Editor (VDE)

CNet's Visual Data Editor (VDE) is not a text editor like the line and visual (ANSI) editors. The VDE was designed to allow quick editing of BBS data sructures. The VDE is used whenever the EA or EG commands are used to edit users and access groups, and whenever the EL or AT commands are used to edit subboards or items.

In order to use the VDE remotely, you must use an ANSI terminal, preferably with color. In addition, because ANSI cursor positioning and drawing requires more data to be moved over the modem, it is recommended that only a high speed (9600 baud or higher) modem be used.

When in the VDE, the arrow keys may be used to move around to the various field titles. To edit a field, press the return key. When finished editing that field, press return again. Many of the line editor's "control keys" are available for power editing here. If there is already text in the field, the text will be highlighted. Typing backspace or the space bar will delete or add to the current text. Pressing any other key will "type-over" the current text. Fields which lead to other screens are marked with "›› ." In normal VDE operation, "un-editable" fields are "ghosted"--shown in black on blue instead of white on blue.

The VDE may be used to edit MULTIPLE groups, users, subboards, or items at one time. This is accomplished by specifying a RANGE of numbers following the EA, EG, EL, or AT command. When in multiple-item editing mode, ALL field will appear ghosted. When you edit a field, it will become un-ghosted. When you exit and select to save changes, only the un-ghosted fields will be applied to ALL items that you are editing.

Control-X may be used to immediately exit a VDE screen. Control-V may be used to verify (re-display) the current VDE screen.

CHAPTER 11
The Pfiles, Gfiles, and News File Areas.

The term "Pfile" is used throughout CNet literature to denote a "program" file. A Pfile is any special game or utility program that you would like to make available to your users "online" during their call to your BBS. Pfiles do not necessarily have to be written specifically for CNet. They may be in DOS Shell, CNet specific compiled-C, AREXX, or "paragon" format. You will find that most other BBS packages will refer to Pfiles as "doors" or simply "on-line programs." A special area of the BBS is set up for users to select Pfiles they wish to use from a list. The "P" command from the main prompt is used to get to the Pfiles prompt.

The term "Gfile" is used throughout CNet literature to denote a "general text" file. A Gfile is any file which is "read" to the user. It may be straight out text like a documentation file for a game, an information file, or a story or joke. It may also contain ANSI and MCI codes to create color displays or animation sequences. A special area of the BBS is set aside for for users to select Gfiles they wish to view. The "G" command from the main prompt is used to get to the Gfiles prompt.

Although separated for logical convenience, the Gfiles areas and Pfiles areas may each contain any combination of Gfiles and Pfiles. This allows you to include documentation files among your Pfiles, and to include executable files among your Gfiles.

The News Files area is used to store messages to be displayed as soon as users log on. News files are sometimes (and confusingly) called "bulletins" in other BBS packages. At log on, CNet will only display news files which are "new" since the user's last call to the BBS. The News Files area may hold any combination of Gfiles and Pfiles. The "N" command from the main prompt is used to get to the News prompt.

The prompt and command structure of the Pfiles, Gfiles, and News File areas are identical. Everything in this chapter applies to all three areas except where explicitly noted.

Adding Items

There are three ways to add items to a Pfiles, Gfiles, or News list--Add, Adopt Orphans, and Post.

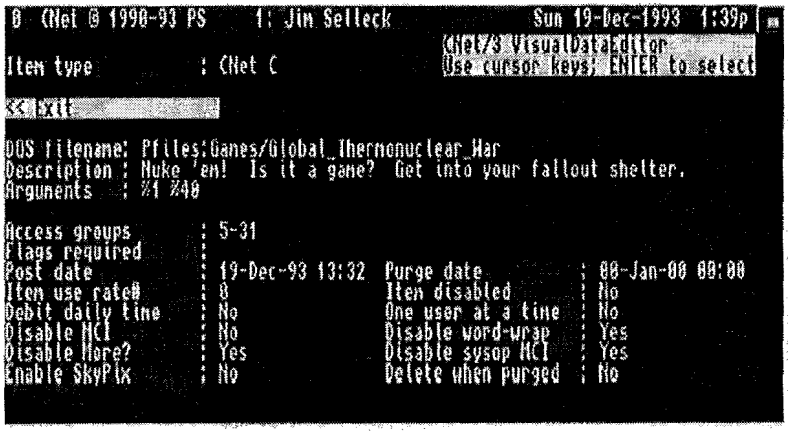
Add: Use this command to quickly add a single item that can already be found on your system. You must specify the type of item, either Text, Arexx, DOS, Paragon, or CNet. In the case of a Pfile, if the type of file (Arexx, DOS, Paragon, or CNet) is not apparent from the file's documentation or appearance, you may have to use the information found later in this chapter to make a determination. Once you have selected the type of file, you are then immediately taken to the item edit screen (see the next section). Set the "DOS filename" to the path and filename of the item. Set the "description" to the text that you would like users to see on the list when referring to this item.

AO: Adopt Orphans. This command allows you to search and select files from any system directory. You must only specify the path to search. You will not be prompted to re-add files which are already on the current list. For each file you select, you must select a file type, either Text, Arexx, DOS, Paragon, or CNet. Once you have selected the type of file, you are then immediately taken to the item edit screen (see the next section). The DOS filename will have been set automatically. Set the "description" to the text that you would like users to see on the list when referring to this item. The number of items that may be selected at one time is limited by the CONFIG program's "max selected files" setting.

P: Post. This command allows you to quickly write a Text file (Gfile) into the current list's directory. You are taken immediately to the item edit screen (see the next section). Set the DOS filename to a unique name (unlike any other on that list). Set the description to the text that you would like users to see on the list when referring to this item. After the DOS filename and description have been set, you are then taken to the editor to write the text file. You will find the Post command most useful when writing News messages.

Editing Items

A visual data editor (VDE) screen is used to edit "attributes" of an item. You are automatically taken to this screen after using the Post, Add, or Adopt Orphans commands. To return to this screen at any time, use the "AT" command, followed by the item's number. By specifying a RANGE of items, it is possible to edit the attributes of more than one item at a time. When editing a RANGE of items, all of the fields on the VDE screen will appear ghosted (black on blue). When you edit any ghosted field, it will become highlighted (white on blue). If you save your changes, the contents of all highlighted fields will be applied to each item you specified. The fields available on this screen are:



DOS filename: the actual path and filename of the item. If a path is not specified, only a filename, CNet will expect to find the file in the list's directory.

Description: any text that you would like displayed to users when they use the Scan command to list the available items.

Arguments: for pfiles, the extra information that you would like to pass as arguments. Use spaces to separate arguments. If a specified argument begins with a percentage sign (%) followed by a number, CNet will interpret this number as a "GETUSER" value, and will substitute the appropriate data as the argument. See the Arexx interface section for GETUSER numbers. For

example, arguments of "%1 %40" will pass the user's handle and account number.

Access groups: the range of access groups which are able to see this item on the list of items.

Flags required: each number specified in this field must also appear in the user's "gfile/pfile flags" range of numbers. If any number specified in this field is not present in the user's "gfile/pfile flags" field, this item will not be seen on the list of items.

Post date: the date that this item was added to the list.

Item use rate#: a number 0 to 3, used in conjunction with the accounting system to charge the user for the use of this item (per execution or read). The number 0 refers to NO CHARGE. The numbers 1 to 3 refer to the accounting system's "per pfile execution" or "per gfile read" fields (there are three of each), depending on whether the item is a text file or a program file. See the CONFIG chapter for more information about the accounting system.

Debit daily time: whether or not to subtract the time used to execute this pfile from the user's daily allocated time to execute pfiles. The user field "daily pfile minutes" limits the number of minutes per day that may be spent executing pfiles.

Disable MCI: whether or not to TURN OFF ALL MCI commands during the reading or execution of this file.

Disable More?: whether or not to TURN OFF the More? page prompt. Set this to Yes for animation files.

Enable SkyPix: whether or not to enable SkyPix (pseudo-ANSI graphic drawing commands) during the reading or execution of this file.

Raw console startup: in the case of a DOS pfile, whether or not to enter the pfile in "rawcon" mode. A program that is written in "raw console" mode uses "hotkey" input. That is, it does not require the ENTER key. Most programs automatically enable Raw console mode. This flag is included in order to "fix" those that don't automatically enable Raw console mode.

Purge date: once this date has been reached, automaintenance will remove this item from the list. See the "delete when purged" flag also.

Item disabled: if set to Yes, the reading or execution of this item will be temporarily disabled.

One user at a time: in the case of a pfile, set this to Yes if the pfile was not written for use in a multi-user environment. If multiple users simultaneously attempt to use a pfile which was not written for use in a multi-user environment, the pfile's data structures or even the BBS's data structures may become corrupt.

Disable word-wrap: whether or not to disable the (default) automatic word wrapping of text. Set this to Yes for animation files and most programs.

Disable sysop MCI: this is a security feature. If there is any chance that the pfile contains an MCI "back-door," set this to Yes. The most powerful MCI commands will be disabled.

Delete when purged: used by automaintenance in conjunction with the "purge date" field. If set to yes, the file will be deleted from the drive at the same time it is removed from the list by amaint.

To edit the text of a text file (Gfile or News file), use the "ED" command followed by the item number.

Executing Items

Reading a gfile or executing a pfile is as easy as entering its number at the prompt. Use the "Scan" command to re-display the list of items. The various access restrictions, accounting charges, and daily pfile time will all be checked first. Sysops use the "Scan!" command to receive detailed information about each item.

Moving and Removing items

Several maintenance commands exist for changing the order of items.

The "X" command can be used to quickly alphabetize the list of items according to their descriptions.

The "ML" command is for reorganizing the current list by MOVING any item to a new spot. The ML command takes TWO arguments, the first being the item number you want to move, and second being the "target" item number to which you would like the item moved. The moving item will then appear AFTER the one currently in the "target" location.

The "K" command is used to remove items from a list. Specify a RANGE of item numbers to remove. The option is given to actually delete the file(s) from disk.

Swinging the Branches of the Subdirectory Tree

Similar to the message and files areas, it is possible to create a "subdirectory tree" structure within the pfiles, gfiles, and news areas. The difference between subdirectories in the message and files areas, and those in the pfiles, gfiles, and news areas is that the former hold lists of SUBBOARDS, and the latter hold lists of readable/executable ITEMS.

To add a subdirectory to the current list of items, use the "AL" command. You will be taken immediately to the edit-item VDE screen. Set the "DOS filename" to a unique subdirectory name. Set the "description" field to the text you would like users to see when displaying the list of items. Exit the screen and select to "save changes." After this, you are immediately taken to yet ANOTHER VDE screen to edit the access restrictions for your new subdirectory. See the next section for a description of this screen.

All pfiles area subdirectories are created in PFILES:, all gfiles area subdirectories in GFILES: and all news area subdirectories in NEWS:. Therefore, all "DOS filename" subdirectory names used in any one particular area must be unique.

To enter a subdirectory, enter the number that appears next to the subdirectory description when listing items.

To return to the "previous" list of items (that is, move BACK a branch in the subdirectory tree), use the "/" command.

To remove a subdirectory from the list, use the "K" command followed by the item number. Unlike the subboards, there is not a separate "KL" command. NOTE that when you kill a subdirectory, all files within that subdirectory are deleted from disk if you select to "delete files also."

To edit the entry or exit text files for the current subdirectory (list of items), use the "ENtry" or "Xit" command, respectively.

Restricting Access to a List of Items

The majority of the access restriction fields found in the subboard's "EL" screen are also available here to restrict access to specific lists of items. To edit these fields, use the "EL" command from the pfiles, gfiles, news, or a subdirectory prompt. The "EL" command here always affects the CURRENT list of items, so never takes an argument. Note that the use of the "EL" command here is slightly different than it is in a subboard, where it is possible to use an argument to edit any subboard from the list of subboards.

Because the fields here are identical in operation to those found in the subboard "EL" screen, they will not be described again. Please consult the subboard chapter for reference. The one difference is the reference to "flags required." Just as there are separate fields in the user's account for Message base and File base flags, there is a field for "Gfile/pfile flags."

The DOS Shell Interface

CNet use's Matt Dillon's "fifo" program to handle the online shell interface. This interface is very stable, and completely supports the "raw" console mode. If your BBS was correctly configured, you should find the "fifo-handler" program in the L: directory, and the "fifo.library" file in the LIBS: directory. Without these

files in place, the DOS shell interface will not operate. When you run a DOS shell program, either from the Pfiles or by using an MCI command, CNet uses the "fifo" program to redirect input and output to and from the BBS.

If you write your own DOS shell program for use with CNet, the most important thing to have your program do is to "die gracefully" when control-C is detected. In the event that the connection with user is broken, or his time limit has expired, CNet will attempt to "break" the DOS shell program by using control-C. If you have the knowledge, it would be wise to close files, and leave the system in a stable state before exiting.

The CNet C Command Interface

CNet offers a very powerful pfile interface through the C language. Pointers to all of CNet's memory structures are available here for users who really know what they are doing. The directory "programming" on the CNet distribution disks holds the current header (".h") files and example code.

The AREXX Command Interface

CNet's AREXX interface supports a large number of "callback" routines. They are used just like other AREXX functions. When a function returns a result, it can be found in the AREXX variable "RESULT."

CNet's AREXX interface can either be used from a pfile, or from a completely free-standing external AREXX program. From an external program, you must first "address" one of CNet's AREXX ports by using the following command (replace P with an open port number):

```
address cnetrexxP;
```

This address command is NOT necessary in a pfile run from within CNet. Pfiles automatically address the port they were run from.

Input routines like "prompt" and "getchar" return "###PANIC" when there is a loss of carrier, or the user's time is up. You should check for this condition to avoid crashable programs!

Following are descriptions of CNet's built-in AREXX functions:

ADDKEYS {s}
Add the characters {s} to the input buffer, as if the user had typed them.

ADDPOINTS {n}
Add the value {n} to the user's "DoorPoints" field. To subtract, use a negative number in parentheses!

ADDTIME {n}
Add the value {n} (in TENTHS of minutes) to the user's time remaining for the call and day. To subtract time, use a negative number in parentheses.

BAUD {n}
Set the baud rate to {n}.

BBSCOMMAND {s}
Execute the BBSCOMMAND {s}. {s} must be a command found on the "available everywhere" menu (see the BBSMENU file).

BBSIDENTIFY {arg}
{arg} : returns
ABBEREXX : "1.0"
BBS : "2.35" or current CNet version
EMULATION: "ASCII" or "ANSI"
NAME : Your BBS's name (bbstext line 9)
SYSOP : Sysop's name (bbstext line 10)
TERM : ‹ baud› ‹ columns› ‹ rows› ‹ line›
USER : "‹ username› " "‹ callingfrom" ‹ access›
‹ access› is returned as GUEST for new users, MEMBER for other users, SYSOP for account #1, CO-SYSOP for any other account with maintenance access.

BUFFERFLUSH
Empty the current serial and keyboard input buffers.

CALLEDITOR {n}
This invokes the user's default editor with {n} maximum lines (0 for default). The current contents

of the editor's buffer are loaded, and the results are re-saved. "1" is returned if the temp buffer is not empty ("0" otherwise).

CHANGEWHAT {s}
Set the user's COMMAND field in WHO displays and the control panel. This feature may not yet be implemented. The command is added for upward compatibility.

CHANGEWHERE {s}
Set the user's WHERE field in WHO displays and the control panel. RESULT will be set to the OLD value of the field.

CHECKABORT
Returns 1 if user has pressed Control-C or SPACEBAR, 0 otherwise. You should call this AFTER a line of output has occurred. Each time something is printed, this is reset to 0.

CHECKIO
Returns 0 if the input buffer is empty, or 1 otherwise.

CLEAREDITOR
Clears the contents of the editor temp file. Use this before CALLEDITOR if you do not use LOADEDITOR.

CLOSEDISPLAY
Close the port screen or workbench window.

CLS
Sends the screen-clear code.

DROPCARRIER
Clear the phone line.

FEEDBACK
This performs the standard FEEDBACK command, allowing the user to leave a message to the sysop(s).

FINDACCOUNT {s}
This function accepts either an account number or a

handle. It performs the familiar handle-search if necessary. The account number is returned if there is no problem. 0 is returned otherwise.

GETCHAR
Wait for a single key to be pressed.

GETCARRIER
Returns 1 is there is a carrier (or local mode), 0 otherwise.

GETPORTID {port}
Give account # for user on port {port}. A result of -1 means NO user is on that port.

GETUSER {n}
Get a variable from memory. See the description of this command in the next section.

GETSCRATCH {n}
Operates like GETUSER, but reads user data from the internal "scratch" account structure. With LOADSCRATCH, this is useful for examining user's accounts other than the current user's.

GETWHERE {PORT}
Tell what user on port {port} is doing.

HANGUP
Same as DROPCARRIER.

IREADY
Same as CHECKIO.

LOADEDITOR {s}
This will read the filename given by {s} into the editor temp buffer.

LOADSCRATCH {n}
This command should be performed before GETSCRATCH's. The argument must be a valid account number. RESULT will carry a "1" if everything was loaded OK, "0" otherwise. This command LOCKS the account specified. The

AREXX program ALONE then has access to it. To signal that the program is DONE with the account, each LOADSCRATCH {id} must eventually be followed by a corresponding SAVESCRATCH {id}.

LOGENTRY {s}
Add the text given by {s} to the call log.

MAYGETCHAR
Returns a character from the input buffer, or "nochar" if the buffer is empty.

MODEM {n}
{n} is 0 to totally close the serial port, 1 to open it, 2 to stop all read I/O, but keep the port open.

OPENDISPLAY
Attempt to open the port's screen or workbench window. It may take a few seconds for the display to open.

NEWLINE
Sends the newline code.

PRINT {arg}
Same as TRANSMIT.

PROMPT ‹ length› {arg} '"‹ prompt› "'
‹ length› is the maximum # of characters to input.
{arg} is one of:

NORMAL	
HIDE	: password input
YESNO	: Yes/No, Yes is default
NOYES	: Yes/No, No is default

NOTE: ‹ prompt› must be surrounded by double quotes, and then single quotes, so that AREXX will actually send the quotes to CNet.

PUTSCRATCH {n}
Takes an argument of the same form as GETSCRATCH (note, however, that you should not use the 7 digit format with put/get scratch, only the numbers 1-41.

PUTUSER {n}
The opposite of GETUSER. Use SETOBJECT before using PUTUSER.

QUERY {s}
Input a line, with a prompt of {s}. Up to 80 characters may be entered.

RECEIVE
Input a line, without a prompt. Up to 80 characters may be entered.

RESETMODEM
Send the modem's initialization commands.

SAVEEDITOR {s}
Write the contents of the editor temp buffer to the file specified by {s}. If the file {s} already exists, it will be overwritten. RESULT will carry a "1" if everything was written OK, "0" otherwise.

SAVESCRATCH {n}
{n} is the account number previously used in a LOADSCRATCH command. If {n} is a NEGATIVE ID number, the user data will not actually be SAVED, only the LOCK removed. This is useful for programs which just read account information, and do not wish to add the overhead of saving an account to disk for no reason.

SCREENOUT {s}
Display {s} only to the screen, not the modem.

SELECTFILE {path}
Add the file given by {path} to the user's select-list

SEND {arg}
Sends the given string without translation of any kind. (no MCI, etc).

SENDFILE {s}
Read the file given by the path {s}.

SENDMODEM {s}

Send the string given by {s} to the modem ONLY, not to the screen.

SENDSTRING {s}
Print the text given by {s}. No carriage return is printed afterward.

SETMAILSUBJ {s}
This command should be performed before EACH WRITEMAIL in order to set the SUBJECT of the mail about to be sent.

SETMINFREE {s}
This command tells CNet when to STOP an upload-in-progress due to critical disk space. {s} should be the lowest free-BYTES on the hard drive.

SETNODELOCATION {arg}
Same as CNet's NEW command CHANGEWHERE.

SETOBJECT {s}
Use this command before each PUTUSER or PUTSCRATCH to specify the data you wish to write into the user's account.

SETPROTOCOL {s}
This command should be used before an XUP or XDN. {s} should be a SINGLE character, matching a character in BBSPROTO to designate a specific protocol. If you wish to allow the user to choose his own protocol, send {s} as a NULL string.

SHUTDOWN
Does nothing. Included for compatibility.

SPAWN {s}
Run the AREXX command given by {s}. Usually this is the LAST command in an AREXX pfile, so that control may be transferred to another pfile.

SYSOPLOG {arg}
Samge as LOGENTRY.

TRANSMIT {s}
: Print the text given by {s}, and then a carriage return. MCI is translated here.

VERSION
: Returns the current CNet version.

WRITEMAIL {s}
: Write the contents of the editor temp buffer to the user's mailbox specified by {s}. {s} must be a valid account number. RESULT will carry a "1" if everything was sent OK, "0" otherwise. Use SETMAILSUBJ before WRITEMAIL.

XDN {s}
: This command has been CHANGED so that it now performs an XPR file download of the specified file {s}. The command SETPROTOCOL must be used first.

XUP {s}
: This command has also changed with XDOWN in the same way. If the transfer is a batch protocol, it is OK to simply pass the PATH here.

How to form GetUser and PutUser arguments

GETUSER and PUTUSER are extremely powerful commands that allow you to read or set just about ANY of the "variable" data that CNet is using to run the BBS, and the user data information for any users currently online. This power allows experienced programmers the ability to create a limitless number of games and utilities to add-on to CNet. However, the PUTUSER function (to CHANGE data) is not a toy to play with. Using it without fully understanding how it works can lead to corrupted user records, lost data, and major crashes of the BBS or even the entire computer.

There are two ways to use the GETUSER function. The first way allows you to access ANY variable in the MainPort (common to all ports) or PortUser (for the current port) structures. The argument required is seven digits long, in the format XT#####, where X is 1 for the PortData structure, or 2 for the MainPort structure. T is the variable

type, 1 for BYTE, 2 for SHORT, 3 for CHAR *, 4 for LONG, 5 for Struct IsDate *, and 6 for CHAR ** (a pointer to a character pointer). The ##### is a five digit OFFSET into one of the two available structures. For definitions of the structures, see the file "cnet.h" in the programming directory on the CNet distribution disks.

Table of GETUSER values

There are 99 pre-defined GETUSER values. To access one of these, you simply need to use the number from the following table as an argument.

1	Handle
2	Password
3	Real name
4	City and state
5	Zip code
6	Address
7	Time left
8	Sysop comment
9	Voice phone
10	Data phone
11	Last call date amd time
12	Today's date and time
13	# of mail
14	# of new mail
15	Access group
16	Access group name
17	Maintenance (0==No)
18	Number of minutes onlie today
19	Screen clear code (always 12)
20	Balance
21	Door points
22	User's total calls
23	Port number
24	Current CPS
25	File upload ratio 1
26	Byte upload ratio 1
27	Term width
28	Term type
29	Default protocol
30	Uploaded Kbytes
31	Uploaded files
32	Downloaded Kbytes

33 Downloaded files
34 File credits
35 Byte credits
36 Public messages
37 Private messages
38 User's WHO banner
39 UUCP id
40 Account number
41 ID (serial) number
42 Day uploaded bytes
43 Day downloaded bytes
44 Day uploaded files
45 Day downloaded files
46 Morning, afternoon, or evening
47 System caller number
48 Subboard number
49 Subboard title
50 Last user's name
51 Post access? (0/1)
52 Respond access?
53 Download access?
54 Upload access?
55 Help level
56 Country
57 Logon time
58 Birth date
59 Organization
60 MCI numeric registers (10 of them)
70 MCI character registers (5 of them)
75 by0, current message primary author name
76 by1, current message secondary author name
77 to0, current message primary addressee name
78 to1, current message secondary addressee name
79 date0, current message date
80 organ, current message organization
81 br, current item number
82 rs, current response number
83 ihead0.Responses, number of responses
84 ihead0.Size, size of file
85 Item0.Downloads, number of downloads
86 Item0.BestCPS, best CPS rate
87 title0, current item title
88 Fancy size, size including "K", "M" etc.
89 plus, part of the Scan output

90	star, part of the Scan output	
91	Fancy core, filename without extension	
92	Fancy suffix, filename extension	
93	Fancy date, chopped date for Scan output	
94	Fancy time, chopped time for Scan output	
95	Total system calls	myp-› Nums[3]
96	Total uploads	myp-› SAM[3][8]
97	Total upload K	myp-› SAM[3][9]
98	Total downloads	myp-› SAM[3][10]
99	Total download K	myp-› SAM[3][11]

CHAPTER 12 - Inter-user communication

This chapter deals with issues relating to communication between users simultaneously on-line to your BBS. It also deals with BBS features which involve inter-port communication. Even if you run only one "dial-in" port, the majority of the features outlined in this chapter will apply to the interaction between dial-in and "local" ports as well.

The most important command to know is "WHO." This command displays a table of information to let you know the status of every port on the system. Each line consists of a port number, the name of the user currently using that port, his logon time, his baud rate, his city, and what he is currently doing on the BBS. If the user has specified a "banner" (by using the EP command), the banner is displayed below the user's other information. New users have a default banner of "Be nice to me, I'm new." You may change the default new user banner by editing the BBSTEXT file (explained in another chapter). If a port is waiting for a call, the user will be shown as "(no one)." By default, these "idle" ports are shown on the WHO display. An option exists from the CONFIG program's "options..." screen to inhibit the display of "idle" ports. The user may specify a range of ports to be displayed by the WHO command.

Using the "hiding" feature (described below), it is possible to be on-line to the BBS, but have the port "appear" idle. Users may not hide from users who have the "conference control" privilege flag (usually only the sysops have this flag).

On-line messages (OLM's)

On-line messages (or OLM's for short) are a quick way to convey messages to users on other ports. The command for sending an OLM is "OLM." You may specify the port number or user name directly following the OLM command. Specifying a user name of "*" will cause CNet to "broadcast" the OLM to ALL ports. When sending an OLM by handle, it is only necessary to type enough letters for CNet to find an exclusive match with the handle of one user currently online. OLM's may consist of up to 380

characters. Once you have begun to write an OLM, you may BACKSPACE to the beginning of the input buffer to CANCEL the OLM. Pressing RETURN will immediately send the OLM.

You will be notified if your OLM was successfully sent or not. It is possible that the user to whom you are writing an OLM will logoff while you are composing your message. In the case of a "broadcasted" OLM, you will told the exact number of ports which received your message.

The ability to send OLM's is controlled by a user privilege flag. A user may not send an OLM to another user if that other user does not have the ability to reply (that is, he does not have the "send OLM" privilege flag).

Incoming OLM's are primarily only displayed at command prompts. Incoming OLM's are "buffered" until you reach a command prompt. OLM's will not interrupt the visual editor, and will not interrupt you in the middle of typing a command.

After each OLM is displayed, several options are given. You can use the "Again" command to re-read the OLM. The "Reply" command will send an OLM in reply. The "Save" command will write the OLM to your mail box for later reference. In addition, many other system commands are available from this prompt which "default" to the sender of the OLM that you are reading. For example, the "Mail," "FInger," and "CC" commands automatically use the name of the OLM sender as their arguments. For a complete list of commands, enter "?" at the OLM options prompt. Prompts between OLM's do NOT appear when you are in the join teleconference.

When replying to a broadcast message, you are given the option of broadcasting your reply, or sending it only to the sender of the OLM.

Hiding and muffling

You are "hidden" from other users when they are unable to see that you are on-line when they use the WHO or OLM commands. You "muffle" other users when you only prevent them from sending OLM's to you--they are still

able to see that you are on-line by using the WHO command. Use the "HIde" command to hide from users, or to again become "visible" to users. Use the "MUffle" command to muffle users, or to again make them "audible." Each command may take a port number or user name as an argument. Use "*" to specify ALL ports.

Using the "*" argument activates an internal logic toggle. When initially you are visible to all ports, you may use the HIDE command to hide from specific ports. When users on those ports logoff, you will again become visible to those ports. When initially you are hidden from all ports, or you use the "HIDE *" command to make yourself hidden from all ports, you may use the HIDE command to make yourself visible to specific ports. When users on those ports logoff, you will once again become hidden to those ports. This works in a similar manner for the muffle command.

Users may not hide or muffle users who have the "conference control" privilege flag enabled (usually just the sysops have this privilege). Users with "conference control" may not hide or muffle from each other.

Each user has the option "auto hide & muffle" from the EP command to set the hide and muffle flags automatically each time they logon. This variable may take one of the following values:

Off: Logon normally without affecting the hide and muffle flags.

Your own port:
If you often use the join teleconference, this setting will prevent your input into the conference from being "echoed" back to you. It can be annoying to see twice everything you type.

Other ports:
Hide and muffle ALL ports except your own. This provides for a "stealth" logon--users will not know that you have even logged on. It is equivalent to using "HIDE *" and then HIDE again to become visible to your own port.

All ports:
A combination of the previous two values.

Letters appear in the WHO display next to the port numbers to remind you of how your hide and muffle flags are set. Seeing the lower-case "h" shows that you are hidden from the port. Seeing the lower-case "m" shows that you are muffling the port. Seeing the upper-case "H" shows that the user is attempting to hide from you, but is unable to (because you have the "conference control" privilege flag). Seeing the upper-case "M" shows that the user is attempting to muffle you (he may or may not be able to muffle you depending on your access). Seeing a "+" shows that the user has the "conference control" privilege flag, and is incapable of being hidden from or muffled.

User logon/logoff monitor

By activating the "user monitor" feature, you can have CNet send you an OLM each time that someone logs on or logs off of specific ports (or all ports). Use the "UM" command to activate the user monitor. You may give the UM command a specific port number as an argument, or "*" to specify ALL ports. Using "*" will cause CNet to toggle between the monitoring and un-monitoring of ALL ports, regardless of which ports are currently being monitoring.

The "user monitor" status of a port does not "toggle" in any way when users log and or log off. Only the UM command works to change the user monitor flags.

Users who log on using the "auto hide & muffle" field set to "all ports" or "other ports" will not be seen by other users who are on-line and using the "user monitor" feature. Users with the "conference control" privilege flag, however, may always see other users log on and log off.

Inter-user chat

Two users may enter a private "chat mode" where they may interactively type to one another in real-time. In order for this chat mode connection to be made, one user must "request" the chat, and other must "accept" it. Both requesting and accepting of inter-user chat are done with the "CC" command. You can specify a port number or user name after the "CC" command, or specify "*" to request a chat with ANY user.

There is a way to FORCE a chat. If a user with the "conference control" privilege flag adds "!" to the end of a "CC" command (like CC2!), CNet will attempt to enter inter-user chat immediately--no "acceptance" of the chat will be required.

To get out of inter-user chat mode, either user can use control-X at any time. Chat mode also exits if either user hangs up or runs out of time.

BBS commands can be executed while in chat mode. Pressing "/" at the beginning of any line will momentarily put the other user on "hold." After the "/," you may enter any of the "global" BBS commands (like WHO, Mail, or OLM). The other user will not be able to see what you are doing. Text that the other user types while you are away will be buffered, and displayed to you all at once when you return to chat mode.

Chat mode uses three colors. One is used by the chat "requester," one is used by the chat "acceptor," and one is used by the sysop if he types into either of the user's port screens. These three colors are defined by the MCI commands found on lines 936, 937, and 938 of the BBSTEXT file(s).

The port screen's pull-down menu "chat mode" option is actually a specialized version of inter-user chat. One difference is that the user may not use control-X to cancel the chat. Only the sysop can exit sysop chat mode, by using the pull-down menu a second time. Another difference is that the user's time remaining is "suspended"--he does not lose any of his time allotted for the call or for the day while in sysop chat mode.

The "join" teleconference

CNet's "join" teleconference might be called a "CB simulator," "multi-user chat" or "party conference" on other systems. It allows users to enter one of possibly several "rooms" or "channels" where they may all type simultaneously and have their conversation broadcast to all other users in the room. A user's input is not broadcast until he presses the ENTER key. If a user has the

"conference" privilege flag, he may use the "Join" command from the main prompt to enter the teleconference.

When a user enters a room, all users currently in that room are notified of the new arrival. For users other than system operators, the "hide" settings are ignored in the conference room--all users will be able to "see" all other users with the "/L" command. The user entering the room is given a quick summary of who is already in the room. To enter text into the conference, just begin typing.

The Conference Room Commands

All commands begin with the "/" key. The following commands are available in the conference:

/?: a brief summary of all conference room commands.

/COntrol: may be used by a system operator to "take control" of a room. Control is revoked from the user currently "in control."

/Invite: allow specific users into a room. OLM's are sent to users notifying them of your invitation. If the room's "doors" are closed, a user must have an invitation to enter the room.

/List: display a list of users and which rooms they are in. Users in "control" of rooms are shown with a "#".

/NAme: toggle the use of your real name. If you enter a real-name room, and you have selected (using the EU command) to keep your real name private, only your handle will be used. This command will ALLOW the use of your real name in the room.

/PAss N: pass control of this room to port N, as if the user on port N was the one to create the room.

/PErma: toggle the "permanent" status of the room. "Permanent" rooms are not destroyed when empty. Normal rooms are removed from memory and their configurations lost when the last user leaves. If you plan to /SAve a room, you should make it permanent first.

/Quit: quit to the Main prompt.

/Room: toggle between "the lobby" (conference room 0, if there is one) and your "private" room (a newly created room in which you have control). If you create a private room and then leave it, you will resume contol once you return. If you do not plan to return, you may use the "/PAss" command to give control to another user.

/Room N: switch to a specific room by number. Room names and numbers are shown by the "/List" command.

/SAve: save this room's configuration so that it will be automatically recreated if ever the BBS is downed and re-booted. The room should be made "permanent" first. Saved configurations are not used if a non-permanent room is vacated and then re-entered.

/UNinvite: remove users from the room. This command is only effective if the "doors" to the conference room are closed.

/Verify: in a join-link room (where the conference areas of more than one BBS system are "linked" together), request a roster of all link id's and ports. Use this command if you unsure of the integrity of the /List display.

/X: edit your conference preferences. Users' conference preferences are only saved if the CONFIG "options..." field "keep conference prefs" is enabled. Otherwise, they are lost upon return to the Main prompt. Conference preferences are described later in this section.

/XR: edit the room's preferences. These are described later in this section.

-: whisper to a user. You must enter the destination's handle or port number. Text you enter here will be visible only to the specified addressee.

+: shout to a user. You must enter the destination's handle or port number. Text you enter here will be visible to ALL users, but will contain a message showing it was addressed to a specific person.

=: make a noise. A noise is like a parenthetical interjection into the conversation. Some noises can be "addressed" to specific users. Some noises act on an "object" that you specify. By pressing ENTER at the noise prompt, you may obtain instructions, a list of noises, or a list of "prototypes" (the actual text that is "filled-in" with your information to make complete sentences). After entering a valid noise name, CNet will prompt you (if necessary) for required or optional arguments.

When a noise is made, there are actually three different versions of the text created. One for the author, one for the addressee, and one for everyone else. Using simple English rules, CNet will use the first, second, or third person of pronouns and verbs as necessary. The systext:noises file contains many "macros" preceeded by the "`" character. CNet replaces these with the appropriate text as necessary. For example, "`0" is replaced with "you" for the text shown to you, and is replaced with your name when shown to everyone else.

By making modifications to BBSTEXT and the systext:noises file, it may be possible, but challenging, to convert the noises to another language.

User Conference Preferences

Each user may set the following conference room preferences for themselves using the /X command:

alias: a name other than your real name or handle which will be used in rooms configured to use aliases. If you do not specify an alias, your handle will be used in these rooms.

default room (lobby or private): if set to lobby, CNet will first attempt to enter room 0 when you enter the join teleconference. If set to private, CNet will first attempt to create a new room in which you have control.

private room topic: the default discussion topic whenever you create your private room.

display action commands (yes or no): set this to No if you are annoyed by the constant display of "noises." Default is Yes.

entry message: text that will be shown to other users when you enter a room. Be sure to include "'0" somewhere in the line. If you do not, CNet will automatically print your name at the end of the message.

exit message: text that will be shown to other users when you leave a room. Be sure to include "'0" somewhere in the line. If you do not, CNet will automatically print your name at the end of the message.

personal noise: a custom noise that can be used by entering "p" at the noise prompt (the = command). You MUST include "'0" in your private noise in order for it to be used. The other noise macros ("'1" etc.) are optional.

Conference Room Preferences

Users in control of a room (creators and users with the conference control privilege flag) may use the /XR command to set the following room preferences:

topic: the room's topic, as seen from the "/L" display.

user names (handle, names, or aliases): control which name will be used in the room. If a user's real name is set to be private, his handle will be used, unless he uses the "/NAme" command. If the user has not specified an alias, his handle will be used.

gender (either, male, female): allows you to create rooms in which only one gender may enter.

youngest/oldest age: allows you to create rooms into which only persons of certain ages may enter.

access: a RANGE of access groups which may enter a room. By default, this is ALL groups, 0-31.

doors (open or closed): when the doors are closed, only users with invitations (the /IN command) may enter the room. When the doors are open, ALL users may enter.

capture file (open or closed): when open, CNet will prompt you for a filename. All text displayed will be saved to this file. MCI command sequences will automatically be stripped.

show on /List (yes or no): if set to No, this room will not appear when users use the "/L" command, unless they are already in the room.

SIG/Public Room (yes or no): if set to No, the creator's name is displayed as part of the room's title on the "/L" display and when entering the room. If set to Yes, there is no official "owner" of the room.

chaos (no names) (yes or no): if set to Yes, names and port numbers will NOT be displayed before text. This makes it impossible to tell who said what.

max room capacity: set this if you wish to limit the number of users who may enter the room. "0" will allow an unlimited number of users.

lurk timeout (min): set this if you wish to prevent users from entering the conference room and just watching without saying anything (AKA "lurking"). CNet's "idle timer" alone will not catch these users, because there IS activity (text being displayed on the screen).

noise set #: select which "noises" file to use for this room. Noise set 0 is the file "systext:noises." Noise set 1 is the optional file "systext:noises1." Noise set 2 is the file "systext:noises2," etc. If you add to or change a noise file, you must use the control panel's menu option "text/menu reload" to re-load the noises files.

JoinLink channel: if you are using join-link, set this number to 1 or greater to correspond to the "channel" this room should listen to. See the discussion of join-link in a section later in this chapter.

entry message: the text that will be displayed to users as they enter the room.

exit message: the text that will be displayed to users as they exit the room.

Port monitoring

From the console, it is easy to view or monitor a user's session--just open the port screen. With the proper privilege flag ("port monitor"), users can use the "MOnitor" command to have any other port's output simultaneously displayed on their REMOTE terminal screen. This allows users to remotely play "Big Brother." By answering Yes to a prompt, it is also possible to activate the monitoring user's keyboard for input into the port being monitored. This privilege flag should be reserved for system operators and other extremely trusted individuals.

It is currently only possible to use the port monitor between two remote ports. A local logon can not be monitored. A remote user can not be monitored from the console by using the "MOnitor" command.

Although unrestricted, it is wise to be using a baud rate equal to or greater than that of the port you are monitoring. Otherwise, the user being monitored will notice a "lag" in text output.

To exit from port monitor, you must press control-Z twice.

Remote terminal system

Have you ever encountered the situation where it is local for you in location "B" to call a location "C", and local for a person in location "A" to call you in location "B" but it is not local for "A" to call "C"? For this and other reasons of convenience, CNet has the ability to allow a user on your BBS to enter "terminal mode" with one of your unused ports. Users with the "use termlink" privilege flag set to "full" can use the "TERM" command from the Main prompt with a port number as an argument to enter terminal mode with that specific port. It is also possible to limit the "TERM" command's ability to the dialing of specific numbers by setting the user's "use termlink" privilege flag to "limited."

When the user's termlink privilege flag is set to "limited," CNet will read the file "sysdata:termlink" to determine which numbers may be dialed. The user is then prompted

with a list of these numbers (ones he has access to) and asked to select one. Each line of this file must have the general format of:

dial baud bits ports access rate name

dial: the complete string to be sent to the modem to make the connection. This INCLUDES ATD or ATDT. No spaces.
baud: the baud rate to dial with.
bits: the data word size (7 or 8).
ports: a range of port numbers which may be used to make this call. Select only ports capable of the selected baud rate.
access: a range of access groups. A user must be a member of one of these groups in order to be prompted with this item.
rate: a number 0 to 3. 0 means no charge. The numbers 1 to 3 correspond to the three accounting system values.
name: the name of the system being called. Spaces ARE allowed here.

for example:

ATDT13132552466 19200 8 1-2 0-31 0 Future World

Join-link

Two or more multi-line CNet BBSs may "link" their join teleconference areas. The "on-line network" that is created allows users on all linked systems to interact through the join teleconference as if all users were connected to one (larger) BBS. Users may address their typed comments to other users on any of the linked systems.

To establish a join-link network, each BBS to be in the network must select a unique "link id #". This number must be 1 or greater, and numbers should be used in sequence. Each sysop must use the CONFIG program's "limits..." screen to set the "highest join-link network id#" field to reflect the highest join-link "link id#" in use in the network. Each sysop must also use the CONFIG program's "defaults..." screen to set the "default joinlink id#" field to reflect the unique "link id#" chosen for his BBS.

A network topology must be chosen. The BBSs should be logically arranged into a linear pattern or a "star" pattern. The network should form no rings or loops. In the case of only two BBSs, the topology is trivial but linear nonetheless.

Although automatic methods will be discussed, the simplest way to establish the network is manually. Each sysop must choose a port (2 ports if a linear network longer than 2, or 3 ports if a branch in a star network) to use for join-link. Enter terminal mode on that port or those ports. One sysop must call the other using ATD commands. Once the connection is established, each sysop must use the terminal program's pull down menu option "JoinLink." The port's screen may then be closed if desired.

Up to 23 conference rooms can be connected through the join-link network. Sysops must use the join "/XR" command to set the "channel" number for rooms to be used with join-link. A channel number of "0" represents a "local" (non-network) room. When rooms are "tuned" to the same channel number across the network, text entered into one will appear in all of the others.

The "/L" command will be expanded to include groupings of users by link-id (and BBS name). Text will appear with the link-id and port number before the name, like "1:0.Big Brother" for Big Brother on link-id #1, port 0. Noises and whispers may be addressed to persons on other link-id's by specifying the link-id and a colon before the port number or handle. If you specify only a handle, CNet will autmatically search all link-id's for a match. Here are some examples:

0	Port 0 on your BBS
2:0	Port 0 on the link-id #2 BBS
Sammy	A user called Sammy on any BBS
4:Sammy	A user called Sammy on the link-id #4 BBS

A command "/VERIFY" has been included to force a recount of the network connections. A conference controller should use this command if he suspects that the "/L" display is inaccurate.

Sysops do not have to be present to connect the join-link network. Using BBS events, connections can be made and broken automatically.

The CONFIG "default..." screen contains a "joinlink password" field which must be set to a password mutually agreed upon between the two systems about to be connected. Insure that there are no leading or trailing spaces in the password.

A new BBS event command "JoinLink" takes one of the following arguments:

0: Do not accept incoming JoinLink calls. This can also be used by either of the connected systems to terminate an existing JoinLink connection.

1: DO accept incoming JoinLink calls, as well as normal BBS calls.

2: Accept ONLY JoinLink calls.

ATD{phone#} {password}:
Dial the phone number specified, and supply the password specified in order to attempt a JoinLink connection. The interations and interval event settings will come in REAL handy to perform auto-redial here!

Say two systems want to connect from 9pm until 10pm. Here are the events that will make this happen:

Abbreviations have been used for the event types. An "OFFLINE" event type is "Immediate--force system idle." An "IMMEDIA" event type is "Immediate--system idle or not." A "HOLD" event type is "Only if system is idle."

For the calling system:

Type	Command	Arguments	Time	Val	Itr	Int
OFFLINE	Off-Line	1	2100	15	1	0
HOLD	JoinLink	ATDT{ph#}{pw}	2100	1	15	1
IMMEDIA	Off-Line	0	2115	2345	1	0
IMMEDIA	JoinLink	0	2200	1	1	0

The system will attempt to dial once each minute for 15 minutes or until there is a connection. If there is no connection, the system will return to normal operation at 9:15p. At 10:00p, the join-link connection (if established) will be broken.

For the system being called:

Type	Command	Arguments	Time	Valid	Iter	Int
OFFLINE	JoinLink	2	2100	15	1	0
IMMEDIA	JoinLink	1	2115	45	1	0
IMMEDIA	JoinLink	0	2200	2300	1	0

This system will reserve itself for ONLY incoming join-link calls during the first 15 minutes. For the remainder of the hour, other calls will also be accepted. At the end of the hour, join-link will be terminated altogether.

If you want this connection to be made on a weekly schedule, set the range of days appropriately. If you want this connection to be made on a specific date, set the month and date.

Notes:

CHAPTER 13 - Networking: FidoNet and UUCP

FidoNet was born in 1984, the work of Tom Jennings using an IBM PC. By 1985, 150 systems had FidoNet "addresses"--consisting of net and node numbers. Today (1993), almost 20,000 nodes are members of the FidoNet network. Zone numbers were added to separate regions of the world. Point numbers were added to allow "end-user" input into the FidoNet (like using an off-line mailer). FidoNet addresses now consist of four parts, ZONE:NET/NODE.POINT (1:2410/215.0 for example). The "1" designates North America, the "2410" a region in Michigan, and the "215" Future World itself. The "0" after the period tells you that Future World is a "node"--a fully privileged member of the FidoNet. A system with a point number other than 0 is a "point"--completely reliant upon the corresponding "node" (its "boss") for its FidoNet interaction.

FidoNet consists of private mail (netmail) and public conferences (echomail). Echomail may be "local" to a particular region, or distributed around the globe. Programs and other files are also transported via FidoNet.

Sysops of FidoNet connected systems are individuals, who run their BBSs as a hobby. Usually, they pay for their high phone bills out of their own pockets, but sometimes they ask for donations from users. FidoNet coordinators do not receive rewards or payments for their work or expenses.

Connecting your computer to the FidoNet network

If you are just becoming familiar with FidoNet, you will probably want to test the waters as a "point" first. Your first step, then, will be finding someone in your area running a FidoNet node--preferably someone a local call away. This person must agree to make you a point from his node.

You will need a separate piece of software called a "mailer". The mailer is used to transfer mail bundles and other files to and from other systems. It schedules calls, and knows all of the FidoNet "protocols" necessary to get the job done. If you are a point, you will only be connecting with your boss. The mailer that is

recommended for use with CNet is "TrapDoor." TrapDoor is available as a download from Future World and other BBSs. A small registration fee may be required to use TrapDoor to its fullest extent. The program originates from Austria, although there are North American registration sites.

Configuration of TrapDoor is not "simple" by any means. You must thoroughly read its documentation and understand the terminology that is used (the documentation likely contains a "glossary" of terms). If your boss node uses an Amiga, chances are that he also uses TrapDoor and can offer some advice. And, if you need to, someone on Future World has probably run into the same problem that you have, and wouldn't mind answering a message in the "help me" or "FidoNet discussion" subboards. Example TrapDoor configuration files can be found on the CNet distribution disks.

With TrapDoor configured and making calls to your boss, you will have created an "inbound", "outbound" and "nodelist" directories on your hard drive. The inbound directory will contain everything that TrapDoor receives from your boss or other nodes. The outbound directory holds everything waiting to be sent to your boss or other nodes by TrapDoor. The nodelist directory contains the FidoNet nodelist--a list of all systems connected to the FidoNet network. The nodelist is used to verify and look-up email addresses. Points are never listed in the nodelist.

If you will be using your FidoNet connection with CNet, you are ready to move on the next section, connecting your CNet BBS to the FidoNet network. CNet does all of the work with the inbound and outbound packets for you. If you will be using your FidoNet connection without CNet, you will need a host of other FidoNet tools. You will need an import/exporter (sometimes called a scanner/tosser/packer) like TrapToss, and a message editor like Chameleon. Use of these other third party softwares is beyond the scope of this discussion.

You need to fully understand FidoNet, and have a good working knowledge and experience with it before considering becoming a node. Some users will make this

their first giant leap. Others will find the "point" route the easiest way to get up-to-speed.

Connecting your CNet BBS to the FidoNet network

There is a great deal of configuration to be done before you are ready to operate CNet with FidoNet. The CONFIG "FidoNet..." screens must be filled in. See the CONFIG chapter for details on this procedure. For the network that you add, you must also edit the "Areas..." "Export-to..." and "Mail routing..." screens. The "areas" are the echomail subboards which you will send and receive from the network. The "export-to's" are the addresses of the other systems with whom you communicate echomail. If you are a point, the only system listed here would be your boss. If you are a node, you must list your points and the other systems you send to and receive from. The "mail routing" is used to tell CNet where to send email (netmail). If you are a point, you will be sending all mail to your boss. That is, from "*:*/*.*" to your boss address will be your only entry. You should re-boot CNet in order to have it recognize the new network.

Sending netmail through FidoNet requires that you have the traplist.library file in your LIBS: directory, and have compiled the nodelist in your nodelist directory. These procedures are described in the mail chapter. Without a compiled nodelist, you will be completely unable to send netmail. CNet checks and verifies the destination netmail address. A privilege flag is also required. Once mail is posted, it is placed into the outbound directory, waiting to be sent by TrapDoor (or some other mailer). At this point, it can not be edited or killed (through normal BBS commands).

To configure a subboard to receive a FidoNet echo, use the EL command to edit some of the subboard fields. The "unique dirname" must be set to the network "tagname" for the echo. This is the name listed in the "areas..." screen "areas" window. You must set the "network affiliation" to read the name of the FidoNet domain. If you are running only one FidoNet style network, this will just be "FidoNet." You may optionally set the "origin/distribution" field to be an origin line for the subboard. If this field is left blank,

CNet will use the field found on the CONFIG "FidoNet..." screen.

It is not necessary to attach every FidoNet echo that your system tosses. If a FidoNet echo is not attached to a CNet subboard, the FidoNet echo will still be "tossed" to the nodes in your "export-to" list. This allows the "pass through" of echoes.

You need to create a subboard for "bad" messages. This subboard should be given the unique dirname of "BAD_MSGS." You must set the Network Affiliation to one of your FidoNet networks; it does not matter which one. Without a bad messages subboard, all "bad" messages will be discarded.

It is currently your responsibility to make sure that there is enough room in the subboard for newly imported items. New items may be "lost" if the subboard too full to accept new posts. FidoNet messages with the same titles as existing posts are never lost--they are attached to existing posts as responses.

When users post or respond in FidoNet subboards, ".cnet" files are created or appended to in the outbound directory. These files are actually packed when Toss runs (described next). once a FidoNet message has been posted, it is not possible to edit or kill it (using normal BBS commands).

The CNet program which actually does the FidoNet magic is called "Toss". It is located in the CNET: directory, and is a Shell program. You may also run Toss from a BBSEVENT. Toss takes one (optional) argument, the word "verbosity" a space, and then a number from 0 to 3. These levels perform the following logging:

0: Minimal logging (default)
1: Give a summary of toss activity by area.
2: Detail each netmail that is imported or routed.
3: Detail EVERY message that is scanned.

All of Toss's output is kept in a file "mail:toss.log." It is your responsibility to check and periodically delete this file. Toss works in five distinct cycles:

1. Unpack. Find all packed message files in the inbound directory which need to be unpacked, and do so.
2. Locate all .PKT files in the inbound directory.
3. For each .PKT file, read the messages it contains. If the message is going to be exported to an export-to node, add the message to the export-to's buffer. If the message is to be imported locally, remember its position.
4. Import all messages into local subboards. Doing this all at once speeds up the operation of Toss, so that it only must enter any given subboard once.
5. Pack all ".cnet" files in the outbound directory, and add them to the ".flo" files. NOTE that the messages were added to the outbound directory at the time of posted, so do NOT have to be re-scanned for in this step.

Toss has a number of configuration options. You can edit these options from the CONFIG "tosser..." screen. For more information, see the CONFIG chapter. Toss relies on the CONFIG "archivers..." information in order to unpack incoming packets. Insure that the "extract" information is accurate for the most common FidoNet packed message formats, like ZIP, ARC, and LHA.

The AreaFix utility

CNet's tosser comes complete with a built-in AreaFix utility. AreaFix allows points and nodes (all of the systems listed on the "export-to" screen) to control which of the "areas" they will receive. AreaFix can save you from having to do this maintenance yourself manually.

In order to use AreaFix, the system must know its AreaFix password. Each export-to system can be given a different AreaFix password that you specify on the "export-to" screen. In order to "add" an area, the system must have an "access level" greater than or equal to the access level of the area. The system must also have the access flags that the subboard requires. Access level and access flag fields appear on both the "areas" and "export-to" screens.

To use AreaFix, a message must arrive addressed to "AreaFix." The subject of the message must be the correct

AreaFix password. The body of the message consists of area tagnames, one per line. If the tagname appears alone on the line, or has a "+" before it, CNet will attempt to add the area to the list of areas that the system receives. If the tagname appears with a "-" before it, CNet will remove the area from the list of areas that the system receives.

CNet will always send netmail in "reply" to AreaFix messages, giving a list of which areas are accessible, with "+" beside the ones currently selected by the system.

Connecting your BBS to FidoNet without using Toss

We can think of no compelling reasons for wanting to run a third-party tosser with CNet instead of CNet's Toss. However, if you are willing to give up Toss's speed and efficiency, there are a couple of programs included to allow you to import and export in FidoNet post-tosser "message" format.

Assuming you are using a tosser like TrapToss or Foozle, you will have subdirectories in your MAIL: directory with the names of the echomail area tagnames. These directories will contain files with names like "2.msg."

If you are not using CNet's Toss, you should NOT have any networks configured from the CONFIG "FidoNet..." screen. In the subboard EL screens, you should have the "path to part0/net/cd" set to the path where the ".msg" files are located. For a network echo with the tagname of "games," this would be "mail:games/." Do not forget the final "/."

Use the Shell program XFIDO to export messages from FidoNet subboards to the Mail: directories. After importing using TrapToss or Foozle, use the Shell program IFIDO to bring the new messages into the FidoNet subboards. Use CLEANFIDO to delete all files from the Mail: directories (to prevent them from being re-imported later).

The Internet, UseNet and UUCP networks

Although sometimes incorrectly used interchangeably in the BBS world, the three words "Internet, UseNet, and UUCP" refer to very different network concepts. The

Internet is a loose amalgam of networks (a web, or network of networks) reaching millions of people around the globe, with humble beginnings as the U.S. government experimental network "ARPANET". ARPANET has the distinction of being THE first computer network. Internet in 1993 consists of more than 8000 networks spanning the globe--45 countries, all seven continents. The Internet looks seamless to the end user.

The Internet is the largest and fastest growing network around. It has been estimated that between 5 and 10 million people use the Internet itself, and that upwards of 25 million people exchange messages between the Internet and all of the other interconnecting networks. One estimate, cited by Al Gore, says the traffic on the Internet grows 10 percent each month.

What is the Internet useful for? The Internet is used for the exchange of electronic mail, but it is much more than that. It can also be used for file transfer and remote login. The Internet is like one big "virtual library." You can find graphics, software, books, library catalogs, BBSs, sounds, journals, newsletters, newspapers, and magazines on the Internet. Most information is free, but some commercial information providers exist (like Lexis, Nexis, etc.). There are also ways to talk interactively one-on-one to another user also currently using the Internet. There's even something called Internet Relay Chat (IRC), similar to CNet's join teleconference. If you find yourself actually connected to the Internet, there are a vast number of "introductory" books available to show you around.

Who runs the Internet? As Christopher Davis, an Internet regular, put it, "Lots of people and nobody, and the National Science Foundation, kinda, sorta." The Internet can seem personal and institutional, organized and chaotic at the same time. The NSF initiated the NSFNET, the backbone in the United States that connects the mid-level networks (academic and research networks), which in turn connect universities and organizations. For obvious reasons, the NSF has a fair bit to say about the Internet in the United States, but it does NOT have control over the mid-level networks.

What is acceptable use of the Internet? NSFNET's Acceptable Use Policy states that transmission of "commercial" information or traffic is not allowed across the NSFNET backbone, whereas all information in support of academic and research activities is acceptable. Example of "commercial" traffic include purchase orders, invoices, and unsolicited advertisements.

How do you connect to the Internet? It is possible to connect your computer directly to the Internet through a commercial Internet provider such as UUNET Communications Services or Sprint's SprintLink. Many sysops who wish to only use the Internet for electronic mail and UseNet feeds choose to go other routes, however, namely the UUCP network.

Networks NOT part of the Internet are referred to as being "outernets." UUCP and UseNet (and even FidoNet) are outernets. Outernets connect to the Internet through "gateways."

UUCP, which stands for Unix to Unix Copy Program, is a worldwide network. It is a method for computers to talk to each other over phone lines. Versions of UUCP are available for most computer platforms. The UUCP network consists of thousands of computers all over the world that have agreed to communicate via phone lines. It is possible to send mail from one UUCP computer to any other by exactly specifying the computers which the mail must travel through (known as "source routing"). Many UUCP nodes (the ones you will probably encounter), however, "appear" to be part of the Internet itself, because they have registered with the Internet domain name system. These UUCP nodes actually have an agreement with an Internet-connected computer for the exchange of email. UseNet news also runs over the UUCP network, so that may also be available. UUCP does not allow for remote login or interactive file transfer, however. There is no central authority over the UUCP network, but there is a registry of computers (if their operators have remembered to submit the information).

The UUCP to Internet connection route is much less expensive than connecting to the Internet directly. Your expenses may consist only of long distance charges, if that.

However, it may require more initial work on your part. The most difficult part is finding someone to agree to "connect" with you. You may find someone in a local user group, the sysop of another BBS, or at a university. If you require more "hand-holding" however, commercial UUCP email providers such as UUNET and PSI would be more than happy to charge you for UUCP and UseNet access.

UseNet provides a service known as "network news." "News" as used here does not refer to current events from news wires, but to discussions, interest groups, and conferences. Thousands of discussion groups ("newsgroups") exist on topics ranging from cooking to sex, from rock collecting to politics. Collectively, they produce more than 35 megabytes of data EACH DAY. UseNet news can be transferred via and between the Internet and UUCP networks, allowing users of those networks to participate. UseNet is its OWN network, however, with no one organization in control. It is closely related to the Internet, but is NOT the Internet. Having access to one network does not mean access to both. Technically, the UseNet is considered a conferencing system, not an electronic mail network.

As already noted, UseNet is divided into newsgroups. Each newsgroup is made up of "articles." There are more than 2100 newsgroups on UseNet, but not every site or BBS receives all of these groups in its "feed." Why wouldn't a BBS want to receive ALL of the UseNet newsgroups? This would mean a HUGE amount of traffic, using a great deal of valuable disk space. The BBS may be paying for the TIME to download the UseNet feed, making it cost prohibitive. Most commonly, perhaps, is that most of the newsgroups will concern topics which the users of the BBS will not be interested in.

Connecting your computer to the UUCP network

Once you have a source for your UUCP feed, you will need UUCP software to send and receive packets with your source. The UUCP software will handle the distribution of email to users, and the distribution of newsgroup articles into their individual directories. The software recommended for this duty is Matt Dillon's UUCP version 1.16 or better (a two disk set). This software is available

from the Fred Fish collection, and is available for download from Future World and other BBSs.

There is a great deal to know and to understand about running a UUCP site. Read the UUCP software documentation thoroughly. There are very knowledgeable users on Future World always willing to give another sysop a hand.

With UUCP configured and transferring files to and from your source, you should have two new "assign" commands in your startup files. UUMAIL: should point to a directory where private mail will be stored. Files within UUMAIL: have the names of the their recipients. UUNEWS: should point to a directory where UseNet newsgroups will be stored. Newsgroups have names like "alt.music.classic." The UUCP software uses a "hierarchical" directory structure. Each of the words you see separated by a period is a subdirectory. If you actually received a newsgroup by this name, you should see a subdirectory "alt" within UUNEWS:, a subdirectory "music" within "alt," and a subdirectory "classic" within "music." NOTE that UUMAIL: and UUNEWS: may consume considerable hard drive space.

If you will be using your UUCP connection exclusively with CNet, you are ready to move on to the next section, "Connecting your CNet BBS to the UUCP network." CNet uses the UUMAIL: and UUNEWS: directories as they are created and maintained by the UUCP software. If you will not be using your UUCP connection exclusively with CNet, you may need additional software to read the newsgroups and to enter your responses.

Connecting your CNet BBS to the UUCP network

Using UUCP email through CNet is a simple procedure. To send or to receive email, a user must have a UUCP ID. He must use the EP command to set one. This will be the user's name on the UUCP network.

When mail arrives for the user, the UUCP software will create a file in the UUMAIL: directory whose filename is the same as the user's UUCP network name. CNet includes

a program which "imports" these mail files. The program "IUUMAIL" is found on the CNet distribution disks. It may be used from the Shell, or as a BBSEVENT (DOS command type). In general, you will want to run this program after completing a UUCP connection. CNet must be running in order for IUUMAIL to be used. After IUUMAIL imports mail, you must delete the files in UUMAIL: to prevent them from being imported again. "DELETE UUMAIL:#? ALL" will accomplish this. You may find it convenient to place the UUCP commands, the IUUMAIL command, and the DELETE command all in one "script" file.

Access for any individual user to send UUCP email is controlled by a privilege flag. See the mail chapter for more information. To actually send the mail, CNet calls the program "SendMail" with the appropriate arguments. SendMail is part of the UUCP software. The directory in which SendMail is located should be added to the DOS search path in your startup files (using a PATH command) so that CNet will be able to find it when necessary. Once email is sent, it cannot be killed or edited from the network (through normal BBS commands). The message is actually sent when you call the UUCP software routines to call your source.

When newsgroup articles arrive through the UUCP software, files with names consisting of numbers (like "1" "2" etc) will appear in the UUNEWS: subdirectories. For example, if you have a newsgroup "rec.arts.startrek" then files will appear in UUNEWS:rec/arts/startrek. To import these files into a CNet subboard, you have to configure a subboard to receive them, and you have to use the program "IUUNEWS" found on the CNet distribution disks.

To configure a UUCP subboard, use the EL command to edit several subboard fields. Set the "network affiliation" to read UUCP. Set the "path to part0/net/cd" field to the path to the newsgroup files. For the "rec.arts.startrek" example, this would be "UUNEWS:rec/arts/startrek/". Do not forget the last "/". Set the "origin/distribution" field to reflect the scope of the messages that will be posted on this subboard. For example, use "world" if you want things distributed throughout the world, or "na" for only North

America. Check with a knowledgeable UUCP node for other distribution codes.

The program "IUUNEWS" actually reads your UUNEWS: directory and imports the HEADERS of the articles into CNet format. Because the actual text of UseNet articles is not imported, you must keep the UUNEWS: directory intact (do not delete files after importing). When messages are deleted through the various CNet pathways (Kill, amaint, etc.), you have the option of deleting the corresponding files from the UUNEWS: directory. This option is available to you from the CONFIG "options..." screen. This method of keeping the UUNEWS: in place was adopted because the majority of people who run UUCP nodes prefer to also have the ability to read the newsgroups using third party software.

The subboard's EL screen contains a "UUCP high-water" field. This keeps track of the last (highest numbered) file that was found in and imported from the UUNEWS directory. Occasionally, this number will be reset, or the newgroup will be "renumbered." When this happens, you will have to reset the "UUCP high-water." You could also simply kill all of the messages on the subboard, and reset the "UUCP high-water" to 0. This will cause all messages to be re-imported when IUUNEWS is again run.

When users post messages or responses, CNet invokes the "PostNews" command with the appropriate arguments. PostNews is not included with CNet, but is a UUCP program which should be located in the same directory as SendMail. Once the message is sent, it may not be killed or edited from the network (through the means of normal BBS commands). The message actually "goes out" when you invoke the UUCP software routines to call your source.

CHAPTER 14 - System maintenance

Remote system operators

When you are granted the "system operator" privilege flag, you gain the ability to use all of the maintenance commands (next section). You also gain the ability to enter any subboard with full subboard operator rights. If an unauthorized person were to gain access to these abilities, your BBS could be in serious jeopardy. Fortunately, remote system operator privileges have secondary password protection. If you are connected to a local-mode (console) port, you have access to system maintenance privileges as soon as you logon. If you are connected remotely, however, you must first use the "ID" command before being given access to system maintenance privileges. For security, this applies to ALL users, even the main SysOp, user #1.

The remote system maintenance password and keyword are set using the shell "cnet:setpass" command. If you do not wish to use a remote system maintenance password, just press ENTER at the password and keyword prompts. Remote system operators are still required to use the ID command.

Maintenance commands

Following are the maintenance commands available at all command prompts. If you do not have system maintenance privileges, CNet will report "unknown command."

AG: Activity Graph. Displays the System Activity Graph (SAG) screen. The SAG is an X-Y plot of system activity (utilization), from 0 to 100%. The X axis is broken in 72 20 minute periods, beginning at 12 midnight, and ending at 11:40pm. The Y axis is broken into a percentage scale. Local ports and local calls do not affect the SAG. The SAG is viewable from the CONTROL panel's "SysInfo" display. You may also "reset" the SAG from the SysInfo display.

AM: Activity Monitor. Displays the System Activity Monitor (SAM) screen. SAM consists of 15

different counters, monitored for 5 different time periods. Counters include the number of feedback, mail sent, mail sent to #1, posts, responses, gfiles read, pfiles launched, new users, upload files, upload K, download files, download K, minutes use, minutes idle, and charges (in cents, for the accounting system). The time periods include "last" (if the system is idle, the last caller), time since setup (re-boot), a definable time "period" (reset from the control panel), total (since file "bbs.sam" was created), and "current." Current is a special column--it shows the number of items online the system RIGHT NOW. You can glance at the current column to quickly see the number of feedbacks waiting to be read, the amount of mail you have, the number of new user applications waiting to be read, etc.

DD: Direct Download. Select files from any path or system directory to download.

DUmp: Change the "time remaining" for another port, or "dump" the user from the system entirely. You may specify a port number as an argument. You may cause the port to close after the user logs off.

EA: Edit (a user's) Account. Completely described in the user account and access group chapter.

EG: Edit (a default access) Group. Completely described in the user account and access group chapter.

LA: Log of Amaint. Everything that occurred during automaintenance--which users were killed, which files were killed, which files failed the integrity check. Option is given to re-start the log.

LC: Log of Calls. All activity for a given call is grouped together, even though several users may logged on at any one time. The first line contains the date, the port, and the modem connect string. This tells you the baud rate and modem protocol in use for the call. If a user successfully logs on, you will see a line with his handle, name, phone number, country,

and "phone verification" field. If the port supports caller ID, you will see a line with the phone number as reported by the modem, together with a list of account numbers whose data phone numbers match the caller ID phone number. A maximum of 8 account numbers is shown. Next you may see a series of log entries as determined by the "logs..." screen of CONFIG and the user's "log verbosity" field. See descriptions of these logs in the CONFIG chapter, and a description of the "log verbosity" field in the user accounts chapter. A line beginning with "SIGNOFF" will detail the way in which the user logged off. After the signoff line appears a "SAM summary"--two letter abbreviations for the variables on the SAM display, summarizing what the user did during that call. "ms" is mail send, "dk" is download kbytes, "df" is download files, "mu" is minutes used, "m1" is mail sent to sysop, "po" is posts, "re" is responses, etc. Option is given to restart the log.

LU: Log of Uploads. TWO logs are actually presented, first the log of uploads, and then the log of downloads. Each line in these files contains the date, the user's handle, the protocol and baud rate, the average CPS (if the file was big enough to measure one), the filename, the size (in K), and the directory (subboard) the file was transferred to or from. Options are given to restart the logs.

RF: Read File. Display a text file. NOTE that MCI is interpretted. You may specify the filename as an argument.

RUN: Execute a CNet "C" pfile. This provides a handy way of running update programs, utilities, etc., from any command prompt. You may specify the filename as an argument.

VF: View Feedback. Read the feedback users posted using the "F" command. See the "mail" chapter for a description of the mailbox commands.

VN: View New users. Read the new user applications,

consisting of responses to questions asked during the new user procedure. See the "mail" chapter for a description of the mailbox commands.

WF: Write File. Load a text file into the editor for editing, or create a new file. You may specify the filename as an argument.

*D: Select Direct. Select any path or directory from which to choose files to add to your download select buffer.

The on-line shell

The "Shell" command from the Main prompt will take a system operator into an online shell. The online shell has all of the power of an actual DOS shell. Because access to this interface by unauthorized persons could spell instant system death, the on-line shell is protected by yet another password and keyword. This password is also set using the "cnet:setpass" command.

CNet use's Matt Dillon's FIFO routines to manage its on-line shell. You should have the file "fifo.library" in your LIBS: directory, and "fifo-handler" in your L: directory. The file fifo-handler should have also been executed by your startup sequence. If you followed the CNet installation procedure, you should be ready to use the shell.

When the online shell opens, CNet reads startup instructions from the file "shell-startup." In general, this file should contain commands which will make your job as sysop easier. The most important command to include in this startup file is "noreq" which disables DOS requesters. This prevents messages like "insert volume SYSTXT:" from popping up when you misspell "systext:", locking up the system.

Just like a DOS shell, the proper way to exit a CNet on-line shell is with the "endcli" command.

The maintenance pfiles

CNet comes with several pfiles pre-loaded into a pfiles area directory entitled "maintenance." Because it was unknown

to CNet what your system operator group number would be chosen to be, when you first configured your system, there were no access restrictions placed on this subdirectory. You should use the "AT" command to change the "access groups" field so that only system operators may use this directory.

Pointers: this is perhaps the most important maintenance pfile. It re-creates the index files associated with the user data files. These files keep track of the alphabetical and phone-number order of user accounts. These files are crucial to the proper operation of "enter a handle" prompts. If your BBS becomes unable to locate users by handle, of if your BBS mysteriously begins rejecting new users, chances are your "user pointers" files are corrupted. Go to the pfiles and run this program.

Count: ocassionally the SAM "current" column will become out-of-sync with the actual number of items on the BBS. Users may post, response, leave mail, and there may be a system crash. SAM, then, would not know about the changes. SAM is only updated when users log off. Use the "count" program to re-figure the SAM "current" column.

Transpose: this pfile is described in the user account and access group chapter. It updates the user's privilege flags and limits with the access group defaults.

Repair_sub: when ran from this directory (without an argument), the "repair_sub" program attempts to repair any damage to the "subboards3" file. There may be occasion where this file becomes corrupted and requires attention. It is easier to fix the problem than it is to re-enter possibly hundreds of subboards. This pfile may also take an argument of a subboard's "physical subboard#" or RANGE of physical subboard numbers. You can view a subboard's physical subboard number from the subboard EL command. With this argument, repair_sub will perform the equivalent of the subboard RR command on the subboard(s) specified. If you have particularly busy or particularly error-prone subboards, you can "automate" the RR process by placing this command as a bbsevent (see the CONFIG chapter), using the physical subboard number(s) as arguments.

Missing: this is a simple pfile which scans all of your subboards for "missing" files--files which are "offline." Items found to be offline are "marked" as offline so that when you scan the items a "!" appears to the left of the filename.

Automaintenance

CNet's automatic maintenance ("automaintenance") routines are sometimes referred to as "amaint" for short. The pfile "pfiles:bbs/amaint" provides many crucial maintenance functions. It does the following:

Removes users who have not called in the specified number of days. Each user has the field "amaint purge days" to control this.

Delete "yank" files which are over a specified number of days old. This is controlled by a CONFIG "limits..." screen option.

Test and transform files which have not yet been tested or transformed.

Kill files and items which have not been downloaded or responded to in the specified number of days. Each subboard has the field "amaint purge days" to control this.

Pack subboard data files. When items are killed in subboards, the data files are not actually restructued at that time. It is amaint's job to reorganize the subboard data files.

Adopt subboard files which are currently "orphans" in the subboard's directories.

Delete BBSList entires which are older than the specified number of days. This is controlled by a CONFIG "limits..." screen option.

CHAPTER 15 - Modifications and customization

CNet can be extensively modified to bring a great deal of individuality and personality to your BBS.

Definitions of Systext: files

CNet's SYSTEXT: directory contains modifiable text files. Some example files are included with CNet, other optional files you can create as needed. Following are the explanations of these files:

avalid: Defines which telephone number prefixes CNet will automatically call OUT to for the auto-validate and auto-callback functions. For a description of the auto-validation files, see the "logon procedures" chapter.

badnames: Each line of this file should contain a word or word fragment which CNet should prevent from being used within a handle or real name. Use underscores (_) to represent spaces, or the beginning or the ending of a word. For example, "sysop" will prevent the word "sysop" from appearing anywhere, and will even prevent "asysoperator" from being used. "_sysop" will prevent words beginning with sysop, like "the sysoperator." "sysop_" will prevent words ENDING in sysop, like "the sysop" or "asysop," however, "the sysoperator" will be allowed. "_sysop_" will only prevent the actual word "sysop"--"asysop" and "the sysoperator" will be allowed. If a user enters a "bad name" he will be asked to enter a new one.

badnumbers: Each line of this file should contain a phone number or phone number fragment which CNet should prevent from being used within a voice or data phone number. A full phone number has the format "313-5551212." Notice there is only ONE hyphen. If you place "313-555" on a line, all 313-555 phone numbers will be banned. If a user enters a "bad number" he will be IMMEDIATELY DISCONNECTED.

help/: This directory contains files used in conjunction with the "HELP" command. You may add, remove, or modify files in this directory at any time. Since the file "systext:help/menu" is displayed whenever a user types the command "help" with no argument, you should not remove

that file, and you may wish to add information to it to reflect additions or changes you make to the help files.

menu/: this directory contains files displayed by the various "?" commands throughout the BBS. You may modify these files at any time. They are not used to determine the actual commands--they are display only.

new/: This directory contains the files displayed to new users while explaining the various terminal settings and system preferences. There are a few special files here, explained next.

new/nq: Explains the purpose and procedure of the new user questionnaire.

new/nqX: New user questionnaire files, each containing one question. X is a positive integer, beginning with 0. You may have as many questions as you like, but must use numbers in order and beginning with 0. These questions and their answers go on to make up the user's "finger" file, which other users can read online.

new/sq: Explains the purpose and procedure of the sysop's-eyes-only questions.

new/sqX: Sysop questionnaire files. X is a positive integer beginning with 0. You may ask as many questions as you like, but must use numbers in order and beginning with 0. These questions and their answers will become part of the user's "finger" file when sysops ONLY use the "finger" command.

nmail: Default new user mail. This optional message is automatically sent to every new user on their first call.

noises: Used by the join teleconference to store the action command ("noise") prototypes. For more information, see the inter-user communication chapter.

qwkend: This file will become the "goodbye" file in QWK Yank packets.

qwkstart: This file will become the "hello" file in QWK Yank packets.

sys.accessX: X is the user's access group number. CNet will attempt to display this file at logon. These files allow you to display messages only to members of specific access groups as they logon.

sys.conf: The "entry" text which is displayed to users when they enter the join teleconference. You may wish to edit this file to contain general conference usage guidelines.

sys.countries: CNet uses a 3 letter abbreviation for the name of the user's country. This file demonstrates the abbreviation convention in use at any prompt where the user is asked to input the name of a country.

sys.end: A file displayed to users as they logoff. This file is not displayed when the "!" is used with OFF command.

sys.info: A file describing your system. You should explain the hardware and software used to run your BBS. Please mention CNet and how to get it!

sys.nuser: Shown to new users. Should contain the rules and acceptable use policy for your system. Users can review this file using the "NU" command.

sys.private: Shown to users who enter "NEW" at the logon prompt when the port is not allowing new users (according to the CONTROL panel's pull down menu).

sys.second: Shown to users on their SECOND call to the system (the first being the new user call).

sys.start: Shown to users as soon as they "press RETURN to enter system."

sys.welcome: Shown to users as soon as they successfully logon (by entering their correct handle and password). This file generally contains a greeting, and calls the quote and vote programs. Many sysops add numerous "extra" utilities here, such as "Top Ten Caller" lists. These little game or utility programs may be written in C, or as DOS or AREXX scripts, and can easily be launched right from the text of any CNet text file using "MCI" commands. See the

section on the text editors for more details about using MCI.

validation: shown to users after they complete an upload into a subboard which requires that the sysop "validate" files. The file should explain why the user is not immediately receiving credit for his upload.

vde/: this directory contains files used by the visual data editor (like the EA, EG, and EL commands). These files are not modifiable. Expert programmers may create additional VDE files. See the programming section on the CNet release disk for more information.

yankend: this file is added to the END of a Yank, when the yank is NOT of the QWK variety.

yankstart: this file is added to the BEGINNING of a Yank, when the yank is NOT of the QWK variety.

Making modifications to BBSTEXT

You may make modifications to individual lines of the BBSTEXT file(s). You may not add or remove lines from these files. CNet prints text based on the order of the lines in these files.

Special care should be taken to preserve the order of the %s's, %d's, and %c's found in the BBSTEXT file. These mark locations where CNet will substitute text into the line before the line is printed or otherwise used. When appropriate, it is OK to remove them from a line, but ONLY from right to left. You may NOT remove one from the beginning or middle of a line. For example, a line which reads "You have %d pieces of mail" may be changed to "You have mail." A line which reads "%s has %d items" may NOT be changed to "the area has %d items."

IMPORTANT: do not add color to the beginning of lines 1, 2, 3 or 8. The first characters of these lines are used for input comparison.

In general, it is a BAD idea to increase the length of a line too much. The majority of these lines are used with strcpy() and sprintf() statements into a text buffer. If that

text buffer is not long enough to hold the resultant string, variables and code may become corrupt. The majority of lines print into a 256 character output buffer. If you find you are increasing the size of a line by a considerable margin, you should consider using the MCI {*} command to read a text file.

If "strange" things begin happening with your system (crashes, etc.), the first thing to do is try a "stock" BBSTEXT file, and see if the problem persists. If it goes away, chances are you have increased the length of a BBSTEXT line beyond its capacity. Re-add your modifications a couple of lines at a time to pinpoint the problem line.

If the "stock" BBSTEXT file does NOT cure the problem, all third-party pfiles are then suspect.

Making modifications to BBSMENU-- Adding or changing BBS commands

The BBSMENU file(s) contain the commands available throughout the BBS. Inside BBSMENU, command prompt menus are organized into separate groups by menu number. The built-in CNet commands you find for each menu in the stock BBSMENU file are in a strict order. You must not change the order of the built-in commands. If you insert or delete any command, CNet will be unable to match commands to their functions. This section shows the proper way to add and remove commands. Note that after making any changes to BBSMENU, you should quit CNet entirely (close the control panel) and reboot to make sure your changes are enabled.

The REQUIRED parts of commands are shown in upper case. Anything that is in lower case is optional typing. Commands may consist of more than one word.

Two separate commands can perform the same function. To "alias" one command to another, use a COMMA (,) to separate the commands on the SAME LINE. For example "Off,LOGOFF" shows that the user can either enter "O" or "LOGOFF" to leave the system. You may add as many aliases to a single command as you need to.

To REMOVE a command, you may not actually REMOVE it from the BBSMENU file. What you should do is to change the command to something which the user would not think of entering. For example, to remove the "List" command, you could change it to "LIST-REMOVED."

To ADD a command, you must add it to the END of a menu list. Follow the command (and the aliases) by the PIPE character (|) and then any text you wish. The text will be displayed when the user enters your command. Most often, the "text" is actually in the form of an MCI command to run a pfile or display a file from disk.

You can create command MACROS--a command which will be "expanded" into another command and arguments. MACROS must be placed at the BEGINNING of a menu set, before the normal commands. The addition (or deletion) of macros does NOT upset the order of the built-in commands which follow. There are many defined command macros included in the stock BBSMENU. All MACROS have a command, followed by a TILDE (~) and then the expanded version of the command. For example, "RG" is a valid subboard command to read items globally. The "RA" command is not an actual subboard command, it is a MACRO set to equal "RG NEW PREVIEW"--read NEW items globally, and show one "old" message from each item with new responses (PREVIEW).

You can set access group restrictions individually for each command. Use the backwards apostrophe character (‘) followed by a RANGE of valid access groups. This can come at the end of a line, or in between the aliases and PIPE printing (see example below). For example, adding "‘31" to a command's definition line will result in only access group 31 being allowed to use the command.

Here is an example of a command which could be added to the end of the "available anywhere" list which would allow users having access levels 10-31 to view a directory of the systems RAM disk by entering either DR or R D:

DRam, Ram Dir ‘10-31 | RAM files:{n2}{#4 c:dir RAM:}

The left braces "{" above are actually Control-Q characters.

NOTE that from a command prompt which allows "available everywhere" commands, CNet first searches menu number 1 (the maintenance menu, if the user is a sysop), then menu number 2 (available everywhere commands), and finally the individual command prompt menu. CNet will use the FIRST valid match it finds, so if a match is found in menu number 1 or 2, CNet will not continue to search the command prompt menu.

Using multiple graphics sets

A "graphics set" refers to the character set or "terminal type" that the user is calling with. Each terminal type offers different characters and different display capabilities. Each caller's terminal type is set at logon from the "Amiga, IBM, Skypix, Commodore" prompt. The terminal type can be changed while online by using the ET command. CNet recognizes the following different terminal types:

(0) ASCII
(1) Commodore 64/128
(2) IBM
(3) Amiga International
(4) SkyPix

You can create custom "systext:" file sets for any or all of these different terminal types. When attempting to display a text file, CNet will first look for a file with the same name, but beginning with "TTn.", where n is the terminal type number from the above list. If this file is not found, CNet will then attempt to read the default titled text file.

For example, for a caller using terminal type 2 (IBM), if CNet wants to read "sys.nuser," CNet will first look for "systext:tt2.nuser." If that isn't found, CNet looks for "systext:sys.nuser."

If the original filename does not contain "sys." as in the case of "validation," CNet will first look for "systext:tt2.validation." If that isn't found, CNet looks for "systext:validation."

You can create these custom terminal type files for all displayed systext files. When reading "systext:help/editor," for example, CNet will first search for

"systext:help/ttn.editor," where n is the terminal type number.

You can also create custom terminal type files for the "sys.entry" and "sys.exit" files used by subboards. When looking for "base0:subname/data/sys.exit" for example, CNet will first search for "base0:subname/data/ttn.exit." NOTE that the subboard EN and X commands only edit the "sys." files. Creating and editing of the optional TTn files must be handled manually.

Using multiple languages or text sets

Although CNet currently is being shipped with all text files in English, CNet has the ability to completely support additional languages or "text sets." For each text set, CNet will use different BBSTEXT, BBSMENU, and "systext:" files. Some of these alternate language text sets are available for download from Future World. Others can be obtained from helpful sysops around the world who have done the enormous job of translation on their own.

To enable this feature, use the CONFIG program's "options..." screen. Set "use multiple texts sets" to "user selectable" if you want users to select a text set on their own (during the new user procedure, or by using the EP command). Set it to "port specific" if you want text set 0 to be used for port 0, text set 1 to be used for port 1, etc. This last option allows you to have an "English" port, a "German" port, etc.

Text set 0 uses the files cnet:bbstext and cnet:bbsmenu (this is considered the "default" text set). Text set 1 uses the files cnet:bbstext1 and cnet:bbsmenu1. Text set 2 uses the files cnet:bbstext2 and cnet:bbsmenu2. You must have both a bbstext and a bbsmenu file for each text set you plan to use. You must use text set numbers in order--if you have bbstext2 and bbsmenu2, you must also have bbstext1 and bbsmenu1. You must always have bbstext and bbsmenu.

CNet loads the bbsmenu and bbstext files when the control panel first runs. If you change these files, there is a way to have CNet re-load them. Use the control panel's pull-down menu option "re-load text/menu."

When using multiple text sets, CNet follows a search scheme to find the appropriate systext files. Within the "systext:" directory may exist "xX" directories, where X is the text set number, one for each text set. CNet will first search that directory.

For example, when using text set 1, and attempting to read "sys.info," CNet will first search for "systext:x1/sys.info." If not found, CNet will then search for "systext:sys.info." To complicate things, terminal type files are also supported here. The complete search order is (using text set 1 and terminal type 2):

systext:x1/tt2.info
systext:x1/sys.info
systext:tt2.info
systext:sys.info

All readable text files will be searched for within the "xX" directories. For example, using text set 0 and terminal type 2, and attempting to read "systext:help/menu," CNet will search in this order:

systext:x0/help/tt2.menu
systext:x0/help/menu
systext:help/tt2.menu
systext:help/menu

It is possible to have multiple text set files for the subboard exit and entry files. For example, using text set 3 and terminal type 2, CNet will search for "sys.exit" in this order:

base0:subname/x3/tt2.exit
base0:subname/x3/sys.exit
base0:subname/tt2.exit
base0:subname/sys.exit

NOTE that the subboard EN and X commands will only edit the files:

"base0:subname/sys.exit" and "base0:subname/sys.entry"

You will have to edit the other files (if any) offline or by using the sysop WF command.

Notes:

CHAPTER 16 - Electronic Mail

Electronic Mail is also known as "E-Mail" or just "mail." Incoming mail that is addressed to you is stored in your "mailbox" until you read it. Mail may arrive from other users on your BBS, or from users anywhere in the world if you are connected to a Fido-Net or UUCP network. When arriving from a network, mail is often referred to as "netmail." Unlike some other BBSs, mail on CNet is always PRIVATE, and may only be seen and read by the addressee.

Sending Mail to Other Users

The "Mail" command is used to send a private e-mail message to another user. You may include the addressee's handle or real name after the Mail command. You may only use the user's real name if he has selected his real name to be public (or if you are a sysop). Following are the prompts and options that you will see:

Handle: If you did not specify a handle or name when giving the mail send command, you will be prompted to enter it now.

Subject: You should give your mail a meaningful but consise subject or topic.

# of days before expiration: Users will see this prompt only if they have been granted the proper privilege flag. It allows you to set the message to "expire" after a specific number of days. Expired mail is not actually removed from the recipient's mailbox until he attempts to read it.

Mark this item as file-mail: Users will see this prompt only of they have been granted the proper privilege flag. Because files cannot actually be "uploaded" at the mail prompt, this method of sending file-mail is really for sysop-use only. Any file on the system can be "sent" to the user, as long as you know its full and correct DOS path and filename. If you select Yes at this prompt, CNet will expect the "subject" to contain a valid path and filename. CNet will attempt to verify that the file exists. If the file can not be found, you will be returned to the Subject prompt. When a user receives file-mail "attached" in this

way, he is able to use the Download, Extract, * (select), and Grab commands at the mail-read prompt to manipulate the file. The file is NOT deleted after it is downloaded. For more information, see the following section "sending file mail."

Return a receipt if no reply: It is sometimes desirable to know whether or not your mail was actually received and read. When you select Yes to this option, you will receive a reply when the recipient reads your mail. If the recipient does not reply himself, CNet will send you a short message informing you that your mail was received. If the recipient also kept the message in his mailbox, or forwarded it to another user, you will know that too. NOTE that sysops may STOP a return receipt from being sent by using the "N" command at the mail-read prompt after they have read a particular message that requested a return receipt.

Return original message also: From a user's reply, it is sometimes difficult to recall the exact topic or details of your original conversation. When you select Yes to this option, CNet will automatically "QUOTE" your message back to you when the recipient replies. This allows you to easily see what the user was replying to. This feature also works with the "return receipt" feature.

Urgent mail (shown at logon): Users will see this prompt only if they have been granted the proper privilege flag. When you have urgent mail waiting for you, you are automatically taken to read it as soon as you log on. In a sense, you are "forced" to read your urgent mail. Urgent mail can also be thought of as a "second" mailbox. If urgent mail is saved, the MR (mail read) command first reads the urgent mailbox and then the normal mailbox.

Sending Mail Via Fido-Net

Sending mail through a network on CNet is almost as simple as sending mail to "local" users. Once again, use the "Mail" command followed by the recipient's name, but this time add an "@" symbol and the Fido-Net address. For example, if you are connected to Fido-Net, you can send mail to Ken Pletzer by using:

```
Mail Ken Pletzer@1:2410/215
```

The Fido-Net address must be of the format shown (ZONE:NET/NODE). You can add a period and a "point" number if necessary. NOTE that you must have been granted the privilege flag to "send fido-netmail."

CNet uses the Fido-Net "nodelist" to verify network addresses. If CNet is unable to locate an address in the nodelist, you will not be able to send netmail to that address. CNet uses "traplist.library" to access the nodelist. Insure that this file is found in your LIBS: directory and that you are using version 5.2 or greater. Also insure that your nodelist path is set correctly from the CONFIG "paths..." screen.

You should regularly receive updated nodelists from the network(s) that you are a member of. In order to be used by traplist.library, these nodelists must be "compiled." It is recommended that you use "TrapList" to compile your nodelists. TrapList is a very easy to find and easy to use nodelist processor. Before you use it, TrapList must be "configured" by placing some information about your system into a "cfg" file. To get you started, following is a sample "traplist.cfg" file for a BBS using CLink (zone 911) and Fido-Net (zone 1):

```
ZONE 911
NODELISTPATH "mail:nodelist/"
NODELIST "clinklst"
NODELIST "nodelist" DIFF "nodediff"
DELOLDLISTS
DELOLDDIFFS
```

After running TrapList, if everything compiled OK, you should find the files "fidonet.index" and "fidonet.extra" in your nodelist directory.

Once CNet is able to locate the mail destination address in the nodelist, a "verification" prompt is given which gives the system's name and geographical location. Here are the other prompts that you will see:

Subject: Just as with local mail, attempt to be as concise but descriptive as space allows.

Crash-mail, Hold, Normal: Users will see this prompt only if they have been granted the proper privilege flag. This is sometimes referred to as the "flavor" of the netmail. "Crash-mail" is marked for immediate shipment (as opposed to waiting for the network mail hour). Crash-mail will only work if you have your mailer (TrapDoor) configured to check for crash-mail packets every hour or so. "Hold for pickup" mail is marked to NOT be sent unless the destination address calls YOU (unless you are calling the destination address for some other reason anyway, such as echomail). All other mail is "normal" and is sent during the normal mail hour.

Request, Attach, or Neither: Users will see this prompt only if they have been granted the proper privilege flag. This option allows you (sysops) to request files (programs or text files, as opposed to messages) from other systems, or to send files to other systems. In either case, the subject line should be the name of the file that you are requesting or attaching. When requesting a file, a password may be required. In this case, add "!" and the password to the subject line. With this type of file request (as opposed to the FReq command) or file attach, you may also include a small netmail message.

Request return-receipt: This option sets the "return receipt requested" flag in the outbound mail packet. There is no guarantee that the destination system supports this option, so you may not actually receive a receipt.

Use your real name: Most Fido-Net networks allow only REAL NAMES to be used. This option is included for those networks that don't mind handles.

CNet files netmail into the outbound directory (CONFIG "paths..." screen). The netmail may be "routed" to another system other than the actual destination system. If you are a point, all netmail is routed to your boss. For details on establishing the routing rules for your network, see the CONFIG chapter's "Fido-Net..." section.

Sending Mail Via UUCP

To send mail through the internet (UUCP), again use the Mail command with the @ symbol separating the

recipient's name and the destination address. For example:

Mail future@engin.umich.edu

was once the way to send mail to Ken Pletzer via the internet. *NOTE that this actual address is no longer valid.* CNet prompts the sender ONLY for a subject (topic). There are no other options for sending UUCP mail. You must have been granted the "send UUCP mail" privilege flag to send UUCP mail.

Before UUCP netmail will operate, you must have installed and configured Matt Dillon's UUCP programs, version 1.16 or higher. CNet calls the "sendmail" command to actually spool the outgoing mail. CNet does no error checking itself insofar as checking for valid destination addresses. It is up to the mailer to bounce-back a reply stating that a specified destination address is invalid.

Reading Your Mail

To read your mail, you may use the "MR" command at any command prompt. Another way to read your NEW mail is to respond "Yes" to the prompt to read your new mail at logon.

You are first shown a summary of the mail you have. Each mail item has a number, a date, an author, and a subject. You might see symbols to the left of the mail number. These symbols represent:

›: Marks the "current" item. It points at the item you have most recently read. If you have not yet read any of your mail, it points to the first item that you will read by pressing ENTER. By default, the first item to be read is the first "new" item.

N: Marks a "new" item. A new item is one that has not yet been read. In the case of a "shared" mailbox, like feedback or new user applications, once ANY user has read the item, it is no longer considered "new."

C: Marks a "carbon copy" item. This item was posted (or was a response to a post) in a subboard. The author addressed the message to you. The subboard is configured

to allow carbon copies. If you REPLY to this item, you have the option of replying publically in the subboard or privately in mail.

F: Marks "file mail." The subject of a file mail item is the path and filename of a downloadable file. The mail-read commands Download, Extract, Grab, and * (select) become active on this item. When the item is killed, the file is not deleted. See the "file mail" section for information on sending file mail.

The mail-read prompt is "Again, Kill, Quit, Reply, Scan, [pass]". Pressing ENTER will always read the next item. Once you have reached the end of the messages, pressing ENTER again will begin reading at the FIRST item. To get out of mail-read, or once you have killed all of your messages, use the "Quit" command. If a mail item has expired, it will be automatically killed the first time you attempt to read it.

Following are mail-read commands:

Again: Read the message you most recently read (marked with "› " on the scan list) again.

Download:
Download file mail.

EA: (sysop) When reading mail, the EA command defaults to the author of the current message.

Examine:
Examine the archive contents of file mail. Operates just like the Examine subboard command.

FInger:
When reading mail, the FInger command (to read a user's general information text file) defaults to the author of the current message.

FOrward:
If the proper privilege flag has been granted, the FOrward command can be used to send a copy of the item to another user's mailbox. The original is not automatically killed.

GRAB:
Display the file contents of file mail.
Operates just like the GRAB subboard command.

Group: (sysop) Change the author's access group number. This command is especially helpful when reading multiple new user applications!

Kill: Remove the item from your mailbox. Using the Kill command again will "un-Kill" the item.

List: Display the list of recipients of this message. This message works only for Bulk mail that has a "route file" on disk. See the "bulk mail" section for more information.

Noreceipt:
(sysop) Disable the return receipt for this item. If for some reason you do not reply to a message, and do not wish the author to receive a return receipt, this command will prevent CNet from sending a return receipt for the item. To re-enable the return receipt for the item, re-read the item.

Pass: Read the next item. This happens automatically by just pressing ENTER at the mail-read prompt.

Quit: End the mail-read session. All un-killed messages are kept in the mailbox. If you did not kill any messages, you will be asked if you would like to kill the messages that you just read.

Reply: Send a reply to the author of the current message. Your reply will by default have the same subject as the original message.

Scan: Re-display the list of mail items.

Write: (sysop) Enter the editor with this item. This is NOT an "Edit" command. The Write command allows you to manipulate the text, and then use the editor's GET and PUT commands to write the message to disk. When you "Save" from the editor, your

changes are not saved to the mailbox. At present, this command is mainly supplied for the convenience of sysops who want an easy way to save (PUT) important mail items outside of their mailbox for future reference.

Yank: Use the yank-task (background process) to pack mail for downloading. See the subboard "yank" section for more information on the use of the yank-task.

*: Add file mail to your file select buffer for later downloading.

Mail-read commands operate by default on the "current" or most recently read item. You may also specify a RANGE of items with most commands.

You will receive a system OLM if your mailbox receives a message from another user currently online. This can also occur if network mail is imported into your box on another port while you are online. Due to the method CNet uses to store and access mail, if you happen to receive an OLM notifying you of a new message, WHILE you are already reading your mail, that new message will NOT be visible to you until you exit the Mail Read system and re-enter.

Verifying Mail You've Already Sent

Many times you send mail and wish to later make changes to what you've written, or even pull the mail altogether. Or, perhaps, you are just curious as to whether or not someone is still holding your mail in his mailbox. This is called "verifying" mail, and is available from the Main prompt with the "MV" command. Normal system users will only be able to see and verify mail that THEY sent. Sysops can see all mail. You may not verify a user's mail if he is currently reading it.

Each mail item is displayed in turn, followed by the prompt "#, Again, Edit, Kill, Quit, [next]." The options at this prompt are as follows:

#: This stands for a number. Enter the mail item number which you would like to immediately read. You may skip forward or backward.

Again: Read again the message you have just read.

Edit: Change the message. You may edit and re-edit mail as many times as you need to.

Kill: Remove the item from the mailbox. Using the Kill command again will "un-kill" the item.

Quit: Immediately end the mail-verify session. An option is given to "save your changes." Answering No will leave the mailbox unaffected.

Next: Read the next message. This happens automatically by just pressing ENTER at the mail-verify prompt. After you have read the last message, mail-verify will automatically go to the "quit" command.

You may only verify mail sent to local users. Once mail is sent through the network, it may not be killed or edited.

A system operator can use the "MV ?" command to obtain a list of all accounts that have mail.

Sending Bulk and Party Mail

Bulk mail is a convenient way to send the same message to a group of users. Party mail is actually bulk mail with one enhancement--all replies to party mail are sent automatically to ALL original party mail recipients. Replies to non-party mail go only to the message author. You must have the proper privilege flags to send either bulk or party mail.

To send bulk mail (which may later be changed into party mail), use the "MM" command from any command prompt. The initial setup of the mail message is identical to normal local mail. You will be asked for a subject, and will be asked to answer yes or no to several prompts. You will then use the editor to write the mail.

The next prompt will be "Enter route file name." You are being asked for a filename to store the recipients' account information. If you plan to send mail to this group of users again, you should assign a route file name. A route file

name is REQUIRED if you plan to make this bulk mail into party mail. Party mail MUST have a list of the original recipients in order to again send mail to those same users. To send your bulk mail to a group of users to whom you've sent bulk mail in the past, enter the previous route file name at the "Enter route file name" prompt.

If you are not using an existing route file, CNet will now prompt for users to send the mail to. You will first be prompted with "Access groups to include." You may enter a RANGE of access groups at this prompt. If you select No to "All members of these groups?" CNet will prompt you with the name of each member of those groups.

If you just press ENTER at the "Access groups to include" prompt, you will be given a series of "Enter an ID number of Handle" prompts. This prompt will repeat, and you may continue to enter as many user IDs or handles as you desire. After the last one has been entered, just press ENTER at the prompt.

If you selected a route file name, and you answer Yes to the "Is this party mail" prompt, the party mail flag will be enabled in the message. Each response to party mail will be sent to all original recipients of the message. Use party mail with discretion!

CNet will display a final recipient count.

Sending Files via E-Mail

Users may not directly upload files into other users' mailboxes. CNet supports a couple of easy ways to simulate this, however.

The first is for sysops only, or for users with the "send file mail" privilege flag. This method allows you to attach any file on the system to a mail message. Use the Mail command to send mail. Set the subject of the mail to be the path and filename of the file you want to "send." When you are prompted with "is this file mail" respond Yes. If CNet is unable to find the file, you are returned to the subject prompt.

When the user reads the file mail, he may use the

Download, Extract, Grab, and * (select) commands. The file is not deleted when the mail is killed.

The second file mail method is much better suited for general user to user file sending. And it does not involve the normal (message) Mail Send procedure at all! Inside a SUBBOARD, when a message (or file) is created, addressed TO a specific user, and the subboard's "carbon copy" option is enabled, CNet will make a copy of that message in the addressee's mailbox. If it was a FILE that was addressed, the file mail commands (Download, etc.) will be enabled when the user reads his mail. With the help of several subboard flags, it is possible to create a custom "file mail" subboard. Users wishing to send file mail would simply have to enter the file mail subboard and use the Upload command. Your file mail subboard should be easy for users to find. Perhaps the first or second subboard on the main list of file transfer subboards. Set the following flags in that subboard's configuration:

Address messages: set to "FORCE" if you want ALL files in that subboard to be addressed to someone (therefore making carbon copies for them all).

Default purge status: set to "@DL" if you want files to be deleted after they are downloaded. This is usually what you would want for temporary "mail" files.

Private messages: set to "FORCE" so that only the addressee of the file will be able to download the file.

Carbon copy to email: set to "yes/def on" to enable the carbon copy messages.

Notes:

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